MacWEEK

08.20.91 Volume 5 Number 29 THE NEWSWEEKLY FOR MACINTOSH MANAGERS

Mac six-pack on tap for October fest

Power, portability to be key themes at October rollout

By Andrew Gore

Cupertino, Calif. — With the biggest CPU introduction in Apple's history scheduled for Oct. 21 at Comdex/Fall '91, new details about the company's fall lineup are emerging (see chart, Page 92).

▸ **Macintosh PowerBooks.** The three notebook Macs, called the Mac PowerBook 100, 140 and 170, will not come with slip cases or handles, but a bevy of optional accessories will be available.

Prices for the three PowerBooks will range from $2,300 to $4,600. An external floppy drive for the entry-level model, which has only a hard disk built in, will list for $200, while Apple's internal fax/data modem will cost an additional $350. Other accessories include 2-Mbyte and 4-Mbyte RAM expansion kits, an external battery charger, and a SCSI cable and adapter that make it possible to access a notebook's hard drive from a desktop Mac.

Apple won't offer a carrying case for the new portables, but sources said third parties are working on cases.

See New Macs, Page 92

October's harvest of shiny new Macs

Preliminary pricing for base models. For a comprehensive price and feature list, see Page 92.

KEVIN BERGER

Lure of totables overshadows towers; buyers will wait and see about '040s

By Rochelle Garner and Margie Wylie

San Francisco — What's lightweight, fits in a briefcase and is likely to sell like gangbusters? The answer: Apple's PowerBook notebooks, coming to a dealer near you this October.

Of the six new CPUs scheduled to share center stage at Apple's Comdex/Fall '91 booth — PowerBook models 100, 140 and 170; Classic II; and '040-based Quadra 700 and 900 — volume purchasers said they are practically climbing the walls in anticipation of Apple's forthcoming notebooks.

▸ **PowerBooks.** "The ultimate traveling toy," in Steve Alburty's opinion, will have some serious applications in his company. Alburty, who is vice president and MIS manager for Chiat/Day/Mojo inc., a large advertising agency in Los Angeles, said on-the-road ad executives will use the 30 or 40 notebooks he plans to buy to log into their home networks. PowerBooks will come with 976, a remote AppleTalk link (see MacWEEK, July 30).

While the PowerBook 140, with its 16-MHz 68030, built-in floppy drive and competitive price, seems particularly attractive, nearly all users said they are pleased to have a selection of configurations.

"I think it is good news, having a full line of notebooks," said Chris Fortin, manager of computer applications marketing for Telesat Canada, in Gloucester, Ontario. "Organizations are always trying to find a happy medium between power and buying enough machines for everyone. The price spread on the PowerBooks is enough to satisfy all our constituents."

▸ **Quadra models.** The Quadra 900's vast memory and expansion capability, internally configurable hard disk, and key switch to prevent tampering make it the ideal server platform, managers said. But they said they won't buy Apple's most powerful machine until adequate database and file-server software become available.

See User survey, Page 92

Scanner, lasers: Sharper image for Apple DTP

By Neil McManus and Andrew Gore

Cupertino, Calif. — Apple will return to its desktop publishing roots this October when it unveils a new eight-bit gray-scale scanner and two high-end printers with enhanced text and graphics output.

The scanner and printers will be part of Apple's "Image Publishing" rollout at the Seybold Computer Publishing Conference & Exposition to be held in San Jose, Calif., in October.

Key to Apple's Image Publishing concept is scanner software that automatically adjusts image quality and printer technologies that can output more than 65 gray levels and can smooth text and graphics.

▸ **Scanner software.** The new Apple OneScanner's software, called Ofoto, calibrates the tones of a scanned image to the output device and straightens and crops the image automatically. The resulting image closely matches the original without the need for any post-scan manipulation, sources said.

At the heart of Ofoto, developed by Light Source Inc. of Greenbrae, Calif., is its Adaptive Calibration technology. Users set up Ofoto by

See Publishing, Page 90

Whither A/UX after IBM pact?

By Mitch Ratcliffe

A/UX 3.0, an enhanced and System 7.0-compatible version of Apple's Unix, is scheduled for release early next year, but last month's Apple/IBM agreement has some users uneasy about the product's long-term prospects.

A/UX users have been enthusiastic since the release of Version 2.0 last year. Before that, the bare-bones Unix command shell sold by Apple commanded little public favor.

"I used to be very bigoted against the Mac, then I saw A/UX 2.0 and fell in love with it," said Ed Carp, a consultant in Alameda, Calif. "It combines the Mac desktop and windowing system with the Unix command shell."

"(A/UX's) Commandos are a good feature because they allow users to select options from a dialog box to build a Unix command," said Marcelo Gallardo, test and evaluation specialist at Princeton University in Princeton, N.J.

▸ **7.0 compatible.** A/UX 3.0 will be System 7-compatible. In addition, serial drivers, tape and SCSI device drivers that have failed when running under the current A/UX are due for a fix.

However, in late July Apple was still interviewing engineers to build in more Unix features and to solve a crucial incompatibility that prevents Finder 7.0 from working with the A/UX filing system. Though beta-

See A/UX, Page 92

Upgrades set for Classic, IIci, IIcx

By MacWEEK staff

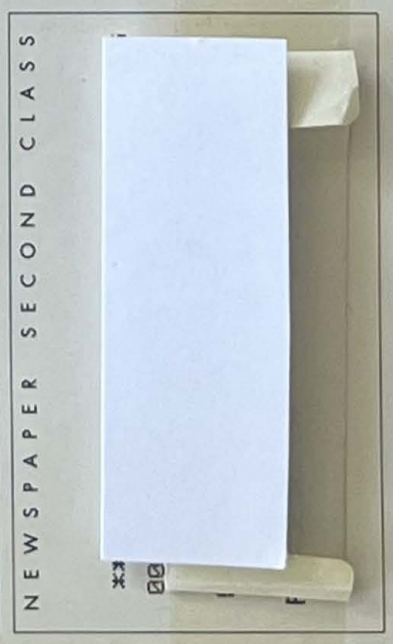
Cupertino, Calif. — Users of some but not all current Mac models will have an opportunity to move up to the new systems due this fall without throwing away their old machines.

The company's October CPU-fest also will mark the end of the line for several older products and bring new prices to others.

▸ **Upgrades.** Apple will offer a $700 logic-board upgrade that will turn 68000-based Classics into 68030-powered Classic II models.

For Mac IIcx and IIci owners, the transition to the next generation is a bit more complicated — and expensive. For about $3,500, owners of the

See Upgrades, Page 90



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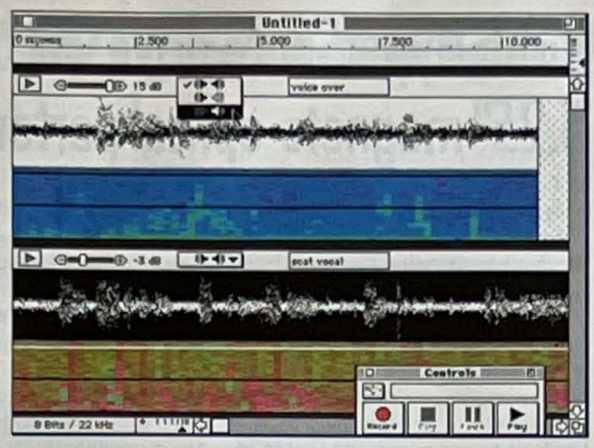

SoundEdit Pro will include multiple tracks with wave form and color spectrum editing views.

Farallon tunes up SoundEdit: Pro update records to disk

By Dartanyan L. Brown

Emeryville, Calif. — SoundEdit Pro, an update of Farallon Computing Inc.'s $195 Mac sound-recording and editing utility, is nearing completion.

Developers who need to add sound to their applications, stacks and multimedia presentations will be getting an improved set of recording and editing features, according to sources who have seen a beta version of the program.

Most important for desktop soundmeisters will be Pro's ability to record directly to disk. While SoundEdit's recording capacity was limited to available RAM, SoundEdit Pro's files will be as large as the amount of free hard disk space.

Other enhancements include:

- **Multiple tracks** that can be added to a document. Any or all tracks can be played, edited and mixed to either mono or stereo sounds simultaneously.
- **Wave-form** and color-spectrum editing views, as well as cue point identification of track sections.
- **Improved mixing** with gain control on every track, stereo options and the ability to name tracks. A sound preview is included in the Open dialog menu.

SoundEdit Pro will support System 7.0 and additional sound file types. Pro requires Farallon's MacRecorder or an Apple digitizer.

Farallon Computing Inc. is at 2000 Powell St., Suite 600, Emeryville, Calif. 94608. Phone (415) 596-9000; fax (415) 596-9020. □

Apple goes to 21 for new monitor

By Neil McManus

Cupertino, Calif. — Apple will move into the large-screen monitor market with the October release of the Macintosh 21" Color Display, sources said.

The new model, Apple's first color monitor measuring more than 13 inches, reportedly will retail for less than $5,000. It will be introduced at the Seybold Computer Publishing Conference & Exposition in San Jose, Calif., in early October.

The display offers a resolution of 1,152 by 870 pixels at 79 dpi and has a 75-Hz refresh rate. It works with a variety of Apple and third-party graphics cards. Apple's $799 Macintosh Display Card 8•24, for example, brings eight-bit color to the screen, giving users 256 colors from a palette of 16.7 million.

The Apple monitor comes with an anti-glare screen, a tilt-and-swivel base, and brightness and contrast controls. It conforms to Swedish safety standards for extremely low-frequency and very low-frequency emissions, sources said. □

To our readers

MacWEEK will not be published Aug. 27 and Sept. 3. Look for our next issue Sept. 10.

Court backtracks on Mac originality

By Dartanyan L. Brown

San Francisco — U.S. District Judge Vaughn Walker, reversing a month-old decision, said Microsoft Corp. and Hewlett-Packard Co. could try to prove that parts of Apple's user interface were not original.

Vaughn had ruled earlier that Apple's window display for the Macintosh met the standard of originality needed for copyright protection and that Microsoft and HP could not challenge that originality.

The judge last week changed his mind here and granted permission for Apple's rivals to show that elements of the Mac interface may have been copied from Xerox Corp.

Jack Brown, Apple's chief counsel, was unfazed, saying that Microsoft's and HP's moves at this point are "pretty much diversionary. They've already made all their arguments, and this is the fourth time around on [this issue]," he said. "I don't think it's going to be a significant defense." □

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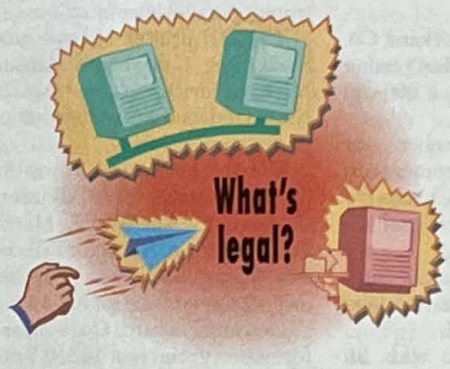

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MacWEEK (ISSN 0892-8118) is published weekly, with the exception of Jan. 1, May 28, July 2, July 9, July 23, Aug. 27, Sept. 3, Nov. 26, Dec. 17 and Dec. 24, 31 by Coastal Associates Publishing, L.P., One Park Ave., New York, N.Y. 10016. Single copy price including postage: $6. One-year subscription rate: U.S. $99, Canada/Mexico U.S. $150, International: U.S. $300 (airmail). All orders must be prepaid. Direct subscription inquiries to Customer Service Department, MacWEEK, c/o JCI, P.O. Box 1766, Riverton, N.J. 08077-7366; (609) 461-2100. Changes of address require that a new application be filled out completely and include both new and old address. Allow 4-6 weeks for processing. Postmaster: Send address changes to MacWEEK, P.O. Box 1766, Riverton, N.J. 08077-7366. Second-class postage paid at New York and additional mailing offices. MacWEEK is an independent journal, not affiliated with Apple Computer Inc. Apple and Macintosh are trademarks of Apple Computer Inc. Entire contents copyright 1991 Coastal Associates Publishing, L.P. All rights reserved. Material in this publication may not be reproduced in any form without permission. Request for permission should be directed to Chantal Lavelanet, One Park Ave., New York, N.Y. 10016. For information on reprints in quantities of 500 or more, write Claudia Crichlow, Ziff-Davis Publishing Co., One Park Ave., New York, N.Y. 10016. MacWEEK is a registered trademark of Coastal Associates Publishing, L.P.

RealTech Laser ships; bigger model due

By Neil McManus

Conroe, Texas — MicroBusiness Solutions Inc., parent company of the mail-order house called Software and Hardware That Fits, last week began shipping its first PostScript Level 2 printer and announced plans for a companion model offering higher resolution and larger-page output.

▸ **RealTech Laser.** The model available now, the $1,995 RealTech Laser, offers 300-dpi output on letter-sized pages at 9 pages per minute. Since the unit was first announced (see MacWEEK, May 14), MicroBusiness decided to incorporate a second 250-sheet paper tray into the base configuration.

▸ **RealTech Laser 400.** The newly announced printer, due in November at $3,995, will offer resolution of 300 dpi or 400 dpi on paper sizes up to 11 by 17 inches. The printer achieves the higher resolution by modulating the dot size to create smaller dots.

Built around a Weitek RISC (reduced instruction set computing) processor, the printer will come with 35 PostScript Type 1 fonts and 4 Mbytes of RAM, which can be upgraded to 16 Mbytes. Its engine speed is 8 ppm for 11-by-17-inch pages and 16 ppm for letter-sized pages. It comes with two 250-sheet paper trays that accommodate a variety of paper sizes up to 11 by 17 inches.

Adobe PostScript Level 2, built into both printers, will support faster performance, 25-to-1 compression, new halftoning algorithms, new graphics pattern operators, forms handling and larger character sets, while maintaining compatibility with existing PostScript applications.

Both printers also emulate the Hewlett-Packard LaserJet II and can automatically switch between AppleTalk, RS-232/RS-422 serial and Centronics parallel ports. A built-in SCSI interface allows users to attach a hard disk to the printer.

MicroBusiness Solutions Inc. is at P.O. Box 3106, Conroe, Texas 77305. Phone (409) 539-3959; fax (409) 539-4141. □

HP to ship Mac version of LaserJet IIISi

By Neil McManus

Boston — Hewlett-Packard Co. next month will ship a Mac version of its HP LaserJet IIISi, a 300-dpi network laser printer.

Available in September for $6,995, the Mac model comes with 5 Mbytes of RAM, which can be upgraded to 17 Mbytes, and 35 Postscript Type 1 fonts.

The 17 pages-per-minute printer switches between on-board Adobe PostScript and HP PCL 5.

The Mac model also adds an AppleTalk port to the printer's RS-232-C/RS-422-A serial and Centronics parallel interfaces.

The HP printer is built around Sunnyvale, Calif.-based Advanced Micro Devices Inc.'s Am29000 RISC (reduced instruction set computing) processor.

The HP LaserJet IIISi was introduced without an AppleTalk interface in March (see MacWEEK, March 5). HP is offering the AppleTalk interface separately to those who already own a LaserJet IIISi for $275.

Hewlett-Packard Co.'s sales information group is at 19310 Pruneridge Ave., Cupertino, Calif. 95014. Phone (800) 752-0900. □

Ricoh HyperSpace drive will boost 5.25" magneto-optical performance

By Dartanyan L. Brown and Henry Norr

Los Altos, Calif. — A new storage mechanism unveiled this month by Ricoh Corp., based here, could give a boost to the market for 5.25-inch magneto-optical devices.

The drive, which Ricoh expects to begin shipping to storage vendors next month, approaches hard disk levels of performance, yet is able to read and write cartridges in the International Standards Organization format used by most current 5.25-inch magneto-optical drives.

Officially called the RO-5031E but marketed under the name HyperSpace, the new mechanism will be offered on an OEM basis at prices starting at $3,990.

The drive, which stores about 600 Mbytes per cartridge (300 per side), promises an average access time of 37 milliseconds and sustained data-transfer rates of 1 Mbyte per second, compared with 67 milliseconds and 450 Kbytes per second in the company's older models.

The performance boost is mainly a result of three technical enhancements, according to Ricoh:

▸ **Split optics.** First-generation magneto-optical systems from Ricoh and Sony Corp. had slow seek times in part because their read-write heads carried heavy optics and therefore could not be moved quickly. In the HyperSpace, as in Maxoptix Corp.'s Tahiti drives, some heavy components have been moved off the head, making faster seeks possible.

▸ **New seek method.** Older magneto-optical drives used a two-step seek method, first moving to the general area of the needed data, then zeroing in on the exact track required.

The HyperSpace drive incorporates a new algorithm enabling it to move directly to the desired track in a single step.

▸ **Higher rotational speed.** The new mechanism's standard spindle speed is 3,600 rpm, compared with 1,800 in earlier Ricoh drives and 2,400 in Sony 5.25-inch systems. The higher speed will cut latency time and boost sustained throughput.

Extra cartridges for the new drives will cost $230 each. With older media, the system will drop back automatically to 1,800 rpm. □

How to be social.

Think how much more effective your people would be if they could communicate better. That's the idea behind WordPerfect Office™ 3.0 for the Macintosh.

It's actually several programs in one. WordPerfect Office comes with a very versatile E-mail package (WordPerfect Office Mail™), that makes it easy for people on a Macintosh network to keep in touch. The mail screen shows you everything you need to compose and circulate messages to an individual, to a group, or to the entire corporation.

With Mail, not only can you send and receive messages, but you can also attach up to 100 files of any format. Beyond that, you can add sound or voice annotation, broadcast a message to anyone logged onto your network, or send carbon and blind copies.

Ever wish you could take back your words? Mail's unique status tracking capabilities let you know when a message has been delivered or opened. So if a message hasn't been read yet, you can retract and edit it.

New '040 accelerator to rocket dash 30fx

By Henry Norr

Scotts Valley, Calif. — A new 68040-based accelerator due this fall from Sixty Eight Thousand Inc. could make the company's dash 30fx workstation the fastest Mac in existence — even after Apple releases its tower models in October.

The accelerator, which will be unveiled at next month's Print '91 exhibit in Chicago, will incorporate an '040 running at 33 MHz, compared to the 25-MHz processor expected in the initial release of the Mac towers.

The card, which plugs into both a NuBus slot and the processor direct slot on the dash 30fx's Mac IIfx-based logic board, can function as a NuBus bus master; the 50-MHz 68030 that powers the standard dash 30fx will be dedicated to tasks such as I/O and video processing.

"It will outperform any 25-MHz '040 machine by a factor of two," said Robert Meyer, vice president of strategic planning.

Code-named Frisbee, the card will provide six new slots that fully implement the NuBus '90 standard, plus 16 SIMM (single in-line memory module) slots and four proprietary PDSes that allow further expansion without the bottlenecks of Apple's NuBus design. Sixty Eight Thousand will adapt the SCSI Bolt, its SCSI-2 coprocessor card, to the new format. The company said it also is working on PDS cards with fast floating-point coprocessors, digital signal processors and additional '040s.

Sixty Eight Thousand said it hopes to begin shipping the card "in a few months," as soon as the 33-MHz chip is debugged and available in production quantities and key applications are updated for the new processor, Meyer said.

Pricing has not been set. The tower-style dash 30fx is available in configurations starting at $11,000.

Sixty Eight Thousand Inc. recently moved to 160 Technology Circle, Scotts Valley, Calif. 95066. Phone (408) 438-1777; fax (408) 438-2967. □

FastTalk reduces the wait for big files

Sixty Eight Thousand Inc., which markets its dash 30fx workstations primarily to pre-press sites, is working not only on improving the processing power of its systems, but also on reducing the time its customers spend waiting while transferring large graphics files.

Its latest scheme, called FastTalk, promises to move data more than five times faster than Ethernet speeds. The system links as many as four dash 30fx stations through cables attached to a special version of the SCSI Bolt, the company's SCSI coprocessor card, mounted in the machines' processor direct slots. Each user gets read-only access to drives on the other users' machines; for example, after a scanning station operator saves a file, a touch-up artist at another station could open the file and use Save As to make an editable copy.

According to Sixty Eight Thousand, a user running FastTalk could open an 11,366-Kbyte 24-bit scan in 12 seconds, compared with the 110 seconds needed to transfer the file on Ethernet. The downside? Maximum length for the whole SCSI "network" is currently limited to 6 or 7 meters. — *By Henry Norr*

E-Machines' Futura MX brings color, QuickDraw acceleration to 19" screens

By Neil McManus

Beaverton, Ore. — E-Machines Inc. this month will begin shipping the Futura MX, an accelerated graphics card that brings 24-bit color to monitors as large as 19 inches.

The $1,995 NuBus card offers a resolution of 1,024 by 808 pixels at 76 dpi on 19-inch displays from companies such as SuperMac Technology, RasterOps Corp. and E-Machines.

In addition, the E-Machines board carries a resolution of 1,024 by 808 pixels at 87 dpi on 16-inch screens, and 640 by 480 pixels at 72 dpi on 13-inch monitors.

The Futura MX accelerates QuickDraw commands up to 500 percent using a custom application-specific integrated circuit (ASIC), according to E-Machines.

The new board also can output video signals in RGB (red, green, blue), NTSC (National Television System Committee) and PAL (a European video standard).

E-Machines offers the similarly configured Futura EX ($995) for 12- and 13-inch monitors, and Futura SX ($1,495) for 16-inch displays.

In addition, E-Machines has announced it will ship a version of its DoubleColor card for the Mac LC in September for $595.

E-Machines Inc. is at 9305 S.W. Gemini Drive, Beaverton, Ore. 97005. Phone: (503) 646-6699; fax (503) 641-0946. □

RasterOps merger fails

Santa Clara, Calif. — The planned merger of video giants RasterOps Corp. and Truevision Inc. fell through last week.

RasterOps, based here, had intended to make Truevision a wholly owned subsidiary by issuing 2.8 million shares of its stock in exchange for all existing Truevision stock. The companies "failed to come to terms" in negotiations, and the stock was never issued, a RasterOps spokesman said.

Indianapolis-based Truevision is best-known in the Mac market for its NuVista+ high-end video production board. RasterOps made its name in the Mac market with color graphics boards and video production cards. □

How to get a date.

Of course, open communication is only one of many ways to bring people together. That's why WordPerfect Office 3.0 for the Macintosh also offers an integrated calendar and network scheduler to help you make appointments, coordinate meetings, schedule events and company resources as well as make to-do lists.

Along with WordPerfect Scheduler and Calendar, WordPerfect Office includes other useful desktop utilities such as Notebook, a flat-file database program; File Manager to help you organize your files; and Forms Maker to create custom forms for Mail, Notebook, and Calendar.

Want to know more about WordPerfect Office 3.0 for the Macintosh? That's easy, too. Just call us at (800) 526-2286. It could be the start of a very productive relationship.

WordPerfect Office™ 3.0
For the Macintosh

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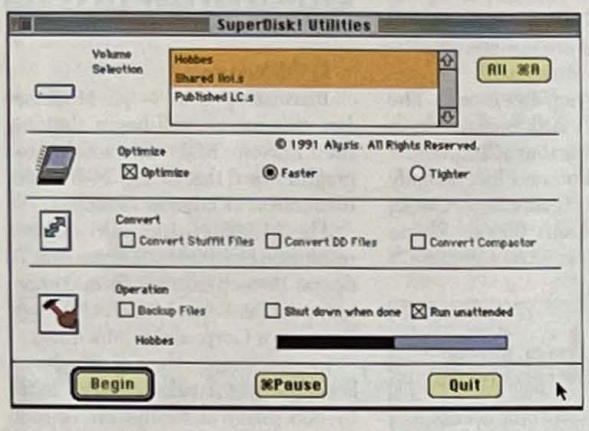
SuperDisk! 2.0, add-on in the works

Alysis updates compression util



SuperDisk! Utilities, an add-on due this week for Alysis' on-the-fly compression program, will optimize previously compressed files and convert files squeezed with other programs.

By Henry Norr

San Francisco — Alysis Software Corp.'s SuperDisk!, already updated several times since it first hit the streets in May, is slated to get a companion utility this week and a major upgrade next month.

The $89 control panel automatically compresses files with a ".s" extension or anything placed in a ".s" folder. Version 2.0, which will be free to current owners, will bring a new and more standard interface, minus the animations that accompany compression in the current version.

Users will be able to create self-expanding archives of folders as well as single files automatically by appending a ".x" to the file or folder name; adding ".exe" will create a file that decompresses automatically under MS-DOS.

The new version also will let users compress or decompress files from a Finder menu or via hot keys, without adding an extension.

▸ **Version 1.7.3.** The current release, which appeared last month, eliminates a number of previous limitations, including partial incompatibilities with HyperCard, Adobe Systems Inc.'s Photoshop, and several popular utilities and desk accessories. Modification dates are no longer changed when a file is compressed or decompressed, and new safeguards prevent users from compressing and open applications, documents and system files.

For System 7.0 users, Version 1.7.3 provides balloon help and can speed network file sharing by 20 percent to 30 percent, according to Alysis. If SuperDisk! is installed on two machines sharing a ".s" folder, files are now transferred to the remote machine in compressed form, with decompression taking place at the receiving end.

▸ **SuperDisk! Utilities.** A free add-on called SuperDisk! Utilities, due this week, checks files previously compressed with SuperDisk to see whether more space can be saved by recompressing with one of 10 additional algorithms.

SuperDisk! already rivals hardware-assisted products in performance in many circumstances (see MacWEEK, June 25), but according to Alysis President Justin Gray, optimizing with the utility will cut decompression times to about a third of what they were previously.

"It should outperform [Sigma Designs Inc.'s] DoubleUp card by about two to one on any machine where DoubleUp runs," Gray said, "and it's the only product that makes on-the-fly compression feasible on low-end machines." On a Plus, he said, decompressing Microsoft Word, which used to take about 19 seconds, requires only seven seconds; on a IIci, optimizing cuts decompression time for Word from six to two seconds.

The SuperDisk! Utility also lets users convert files compressed with Aladdin Systems Inc.'s StuffIt products or Salient Software Inc.'s DiskDoubler to SuperDisk! format, provided that the StuffIt engine or Salient decompression software is on the hard disk.

With Version 2.0 of SuperDisk!, users can configure the utility to come up automatically at shutdown to optimize compression and back up recently modified files to a ".s" folder on another volume.

Peter Shapley, a designer at Glen Fleck Inc., a presentation and design company in Santa Monica, Calif., said his company uses SuperDisk! to turn files it sends to clients into compressed self-extracting files.

"When you have to send a 6-Mbyte MacroMind Director file by modem to Japan, cutting it to 3 Mbytes makes a huge difference, even at 9,600 bps," he said. "There's not much that's easier than just renaming a file or folder and watching it shrink."

Alysis Software Corp. is at 1231 31st Ave., San Francisco, Calif. 94122. Phone (415) 566-2263 or (800) 825-9747; fax (415) 566-9892.

Small Miracle tries its luck with fast file-archiving tool

PakWorks has filters, archive segmenting

By Henry Norr

Old Greenwich, Conn. — Some might say it would take a miracle of more than modest proportions for a new player to make much headway in the now-crowded compression field, but a company here called Small Miracles thinks it can work the trick with a new utility called PakWorks 1.03.

Available now at $79.95, PakWorks falls into the category of general-purpose archiving application, a category that includes such products as Aladdin Systems Inc.'s StuffIt Deluxe and Bill Goodman's shareware application, Compact Pro. But the new program promises compression speeds rivaling those of quick desktop utilities such as Salient Software Inc.'s DiskDoubler or Alysis Software Corp.'s SuperDisk!

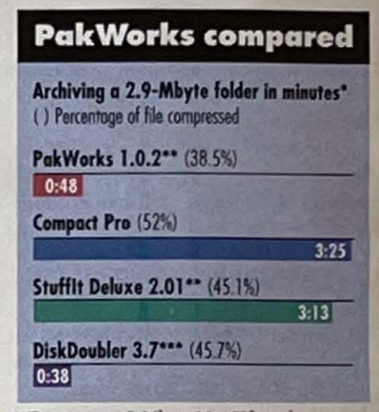
The program lets users combine multiple files and folders into a single compressed archive with the original folder hierarchy intact. Individual components of an archive can be removed at any time, without decompressing the others, and other files can be added. Archives can be sorted by a variety of criteria and can be password-protected.

PakWorks also can create self-extracting archives for transmission to users who don't have the PakWorks application. A file-filtering feature lets users select or exclude files by file type when creating an archive.

The program also offers intelligent segmenting and joining of large archives, even to partially used floppies: If the file won't fit on the disk, PakWorks will divide it into "SmartSegments" sized to use all available space.

Version 1.03, released this month, adds improved integrity-checking.

Kas Thomas, developer of PakWorks and president of Small Miracles, said tests on a Mac LC show his program working 10 to 100 times faster than competing stand-alone compression applications.



**Tests run on 8-Mbyte Mac IIfx under System 7.0 with default memory partitions.*
***Default compression mode.*
****With Sigma DoubleUp board.*

In preliminary tests on a Mac IIfx at MacWEEK, PakWorks in default mode shrunk a 2.9-Mbyte test folder containing 86 files of various types by 38.5 percent in 48 seconds. By contrast, Compact Pro compressed the same folder by 52 percent, but needed three minutes and 25 seconds to do the job; and StuffIt Deluxe 2.01 delivered 45.1 percent compression in three minutes, 13 seconds. DiskDoubler 3.7, working with Sigma Designs Inc.'s DoubleUp NuBus card, shrunk the folder by 45.7 percent in 38 seconds.

Small Miracles is at P.O. Box 625, Old Greenwich, Conn. 06870. Phone (203) 967-8260. □

THINK C, Pascal now 7.0-compatible

By Wade Williams

Cupertino, Calif. — Symantec Corp. this month began shipping new versions of its C and Pascal programming languages.

Both the $299 Version 5.0 of THINK C and the $249 Version 4.0 of THINK Pascal are compatible with System 7.0's 32-bit memory addressing and virtual memory. Both support required Apple events, the Macintosh Communications Toolbox and all Toolbox calls documented in Inside Macintosh Volume VI.

New objects were added to the THINK Class Library for both C and Pascal, including support for dialog boxes, multiwindow documents and System 7.0 aliases, balloon help, and required Apple events.

THINK C underwent the most significant changes, including a compiler rewrite to provide compact and fast code, Symantec said.

"I particularly like the code optimizer — anything to get rid of the bloat and inefficiency that we've had in the past," said Dennis Cohen, a senior software engineer for Claris Corp., who has tested Version 5.0 of THINK C.

Markers have been added to the THINK C editor, allowing users to jump quickly to portions of their source code. The source-level debugger now remembers break points and the data displays between sessions.

The Preprocess and Disassemble commands let users view code just before compilation and after the built project has been converted to Assembly. THINK C's projects now can be of nearly unlimited size, depending on memory and disk space, Symantec said.

THINK C requires 2 Mbytes of RAM and MultiFinder or Finder 7.0 if the debugger is used. THINK Pascal requires 1 Mbyte of RAM (2 are recommended); 4 Mbytes are recommended when using the THINK Class Library or Apple's MacApp.

Users can upgrade to the new THINK C for $89 and to the new THINK Pascal for $69. Users who purchased either language after June 6 can upgrade for free.

Symantec Corp. is at 10201 Torre Ave., Cupertino, Calif. 95014. Phone (408) 253-9600; fax (408) 252-4694. □

Symantec earns a C++ in acquisition

Symantec Corp. last week acquired Zortech Inc., adding the Woburn, Mass.-based company's C++ compilers to the Symantec line.

Zortech's compilers for the professional-level object-oriented language are available for the Mac, Windows, OS/2 and Unix systems. The Mac version runs under Macintosh Programmer's Workshop.

Effective immediately, customers can contact Symantec for sales and support of Zortech products, the company said.

To complete the acquisition, Symantec will trade 238,095 shares of its outstanding common stock, which has an estimated value of more than $10 million, for the remaining shares of Zortech stock. — *By Wade Williams*

For the Record

In our review of Lapis Technologies Inc.'s Full Page Display, which appeared Aug. 13, we neglected to mention that Mobius Technologies Inc. also offers a low-cost unaccelerated full-page display system. It is priced at $895 direct from Mobius.

NuDesign Engineering's NuDrives, mentioned in last week's issue, always block a second NuBus slot in six-slot Macs. Installing the card in the last slot to avoid blocking the adjoining slot can be done only in three-slot models.

The Aug. 6 issue incorrectly reported that interfaces to Apple's Data Access Language (DAL) and Oracle databases will be included with Version 2.5 of TGS Systems Ltd.'s Prograph visual programming language. The company's DAL API and Oracle API, both due Oct. 1, will be offered separately at $199 each.

The July 16 article about SQL*Forms Runtime for the Macintosh incorrectly identified Oracle for the Mac Version 1.2 as the company's Mac-based SQL server. SQL*Forms Runtime will work with the company's SQL server, Oracle Server for the Mac, but is not compatible with the stand-alone product, Oracle for Mac Version 1.2.

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Equation editors to get savvy help

Updates from Design Science, Prescience

By Raines Cohen

Boston — Engineers, scientists and students needing to express and edit mathematical equations will get a boost with two updates announced here this month at Macworld Expo.

▸ **Expressionist 3.0,** due next year, has been completely rewritten, according to Prescience Corp.

The new version will be more flexible, with a user-customizable palette and keyboard equivalents.

Prescience said that while the current version, 2.07, is System 7.0-compatible, Version 3.0 will be System 7-savvy. For instance, the company is building in support for Apple events that will enable other applications to call on Expressionist to edit equations embedded in their documents.

Other 7.0-specific features, such as balloon help, are expected as well. Price, upgrade cost and release date for Expressionist 3.0 have not been set.

▸ **MathType 2.5** from Design Science Inc. also will be System 7-savvy, but it will use a different approach for interapplication communications.

Due by year-end, the new version will support object linking and embedding (OLE), Microsoft's protocol for application integration. As a result, users can embed MathType equations in documents of OLE-supported applications and can launch MathType to edit equations. Instead of having to cut, copy or paste, users simply can select an embedded equation and either double-click on it or activate MathType's editing tools from a menu command.

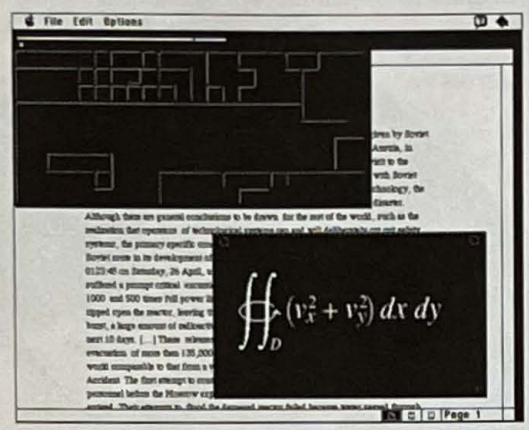
Only Microsoft Excel 3.0 currently supports OLE on the Macintosh, but Word 5.0 for the Mac, due by the end of the year, also is expected to support it.

Design Science already supports OLE in the Windows version of MathType.

MathType 2.5 also will include a TrueType version of a math font, balloon help and other minor enhancements. It will remain priced at $149.

Design Science Inc. is at 4028 Broadway, Long Beach, Calif. 90803. Phone (213) 433-0685 or (800) 827-0685; fax (213) 433-6969.

Prescience is at 939 Howard St., San Francisco, Calif. 94103. Phone (415) 543-2252; fax (415) 882-0530. □



Expressionist 3.0, shown by Prescience at this month's Macworld Expo, includes new tools to make it more usable for equation editing.

Quicken profits from new features

By Dartanyan L. Brown

Menlo Park, Calif. — Intuit Inc. earlier this month released a new version of its Quicken financial-management package.

Still priced at $69.95, Version 3.0 now offers:

▸ **CheckFree electronic payment.** With CheckFree Corp.'s electronic bill-paying software now integrated within Quicken, users pay a $9.95 monthly fee to pay bills electronically to any individual or organization in the United States.

▸ **Account types.** Quicken now handles cash, credit card, asset accounts and liability accounts, and can transfer funds among those as well as checking and savings accounts.

▸ **Better reporting.** Users can prepare reports that consolidate information across all accounts or user-selected accounts.

Cash flow, tax summary, net worth, monthly budget and itemized categories are preconfigured in Quicken 3.0.

▸ **Improved bookkeeping.** Version 3.0 comes with preset reports for income statements, balance sheet, accounts receivable, accounts payable, cash flow, reconciliation, job/project and payroll.

Quicken files can be exported to Softview Inc. 's MacInTax or ChipSoft Inc.'s TurboTax tax-preparation programs and SYLK, ASCII and STD (Standard Tax Data) formats.

Other new features include payment reminders, font control for checks and reports, and flags that warn of duplicate check numbers.

Intuit Inc. is at 155 Linfield Drive, Menlo Park, Calif. 94026. Phone (415) 322-0573 or (800) 624-8742; fax (415) 322-1597. □

Shredder keeps confidential files safe from recovery on System 7.0

By Henry Norr

San Diego — A System 7.0-dependent utility slated to ship this fall will give users of the new system several easy ways to prevent recovery of confidential data from deleted files on their disks.

The DLM Software Inc. package, called Shredder, will take advantage of Apple events and Finder 7.0's "drag-and-drop" technique to let users overwrite old files so they cannot be restored even with sophisticated recovery tools.

The program, due in early October for $69, will have three components:

▸ **Shredder.** Users will be able to securely erase a file, a folder or a disk at any time by dragging icons to a Shredder icon on the desktop.

▸ **Scrubber.** A related application called Scrubber will overwrite old information that might be hidden within a file on disk, without destroying current data.

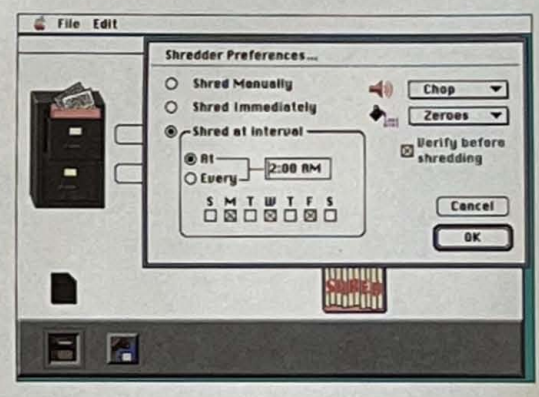
▸ **Background Shredder.** A third application, Background Shredder, when installed in System 7.0's Startup Items folder, can shred and scrub in the background on a schedule set by the user.

Other applications will be able to use the DLM software via two custom Apple events, Shred and Scrub.

Three modes will be available for both shredding and scrubbing, including a three-pass option that complies with government standards for declassification of magnetic material.

DLM's Shredder has no relation to a utility with the same name announced earlier this month by Microcom Inc., as part of its new Citadel with Shredder security package (see MacWEEK, Aug. 6).

DLM Software Inc. is at 10509 San Diego Mission Road, Suite M, San Diego, Calif. 92108. Phone (619) 283-2343; fax (619) 481-0816. □



DLM's Shredder provides desktop icons for quick removal of confidential data and can overwrite all deleted files at user-defined intervals.

NewLife accelerates Classics

By Raines Cohen

Kanata, Ontario — NewLife Computer Corp. this month began shipping a line of 68030-based accelerators for the Mac Classic.

The NewLife Accelerator! is available in three versions. The base model, with a 16-MHz '030 but no math coprocessor or RAM, lists for $525; with a 68882 math chip it costs $599. A Business Bundle version, priced at $1,136, includes a 20-MHz '030, a 68882 and 4 Mbytes of RAM, plus a copy of Connectix Corp.'s Virtual 3.0 when that program is released next month. All three versions also require a $132 installation kit containing brackets and a power supply.

The accelerator, which fastens over the top of the Classic's logic board, has four memory-expansion slots that can accommodate up to 16 Mbytes. The RAM left on the logic board can be used as a RAM disk or, with Virtual 3.0, as virtual swap space; with the Connectix software users will be able to access up to 16 Mbytes of contiguous memory, even though the Classic ROMs normally allow only 4 Mbytes.

The cards, which are covered by a two-year warranty, include a socket for optional NewLife video adapters, which support monitors ranging in resolution up to 640 by 860 pixels.

NewLife Computer Corp. is at 603 March Road, Kanata, Ontario K2K 2M5, Canada. Phone (613) 592-5080 or (800) 663-6395; fax (613) 592-9738. □

Optima extends memory on System 6 'dirty ROM' Macs

By Henry Norr

Menlo Park, Calif. — In the latest update to its line of memory-management utilities, Connectix Corp. this month released a new version of its Optima series.

Optima/32 and Optima/128 let 32-bit-clean applications running under System 6's Finder access up to 32 or 128 Mbytes, respectively, of real RAM (see MacWEEK, Dec. 18, 1990). Although the original release worked only on newer Macs with 32-bit-clean ROMs — the IIci, the IIsi and the IIfx — the new version, 2.0, also works on the SE/30, the IIx, the IIcx and the original Mac II, even without a PMMU (paged memory management unit) chip installed.

Because the new version also is fully compatible with KanjiTalk 6.0.7, according to Connectix, it will for the first time bring 32-bit addressing to users of that system software. A System 7.0 version of KanjiTalk is not slated for release until next year.

Optima comes with Version 2.0 of Maxima, another Connectix utility, which gives applications that are not 32-bit clean access to as much as 14 Mbytes of RAM.

Optima/32, priced at $269, is distributed by Connectix; Optima/128 is available exclusively in bundle deals with 16-Mbyte memory modules from Newer Technology of Wichita, Kan.

Connectix Corp. is moving this month to 2655 Campus Drive, San Mateo, Calif. 94403. Phone (415) 571-5100 or (800) 950-5880; fax (415) 571-5195. □

Connectix to share wisdom about memory management

If there's anyone in the Mac community who can keep straight the now-bewildering range of memory-configuration options facing Mac users and managers, it ought to be Connectix Corp., and the pioneering developer of Mac memory utilities is now offering to share some of that expertise for free.

The company, which counts the first implementation of virtual memory for the Mac and a cleanup utility for older ROMs among its credits, this month began distributing a free handbook called The Macintosh Memory Guide.

Along with a model-by-model outline of the Mac family's memory-addressing capabilities and six pages of ads for Connectix's products, the 26-page handbook covers such issues as which NuBus slots to fill first to minimize memory fragmentation and what banks to fill when expanding LaserWriter memory.

The Macintosh Memory Guide is available free by calling (800) 950-5880. Connectix, which said it has already printed 35,000 copies and plans a second edition of 100,000, also is offering the guide free in lots of 100 to user groups. — *By Henry Norr*

Sigma cuts prices on display cards, monitors

Boards compatible with System 7.0

By Neil McManus

Fremont, Calif. — Sigma Designs Inc. this month cut the prices of most of its Mac display cards by up to 26 percent.

- **PageView Multi-Mode Monochrome cards** for the SE, SE/30 and NuBus-based Macs were dropped to $295 from $399. The cards drive 15-inch monitors in 72-, 80- and 88-dpi resolutions.
- **L-View Multi-Mode Monochrome boards** for the SE, SE/30, IIsi, LC and NuBus-based Macs were lowered to $395 from $499. The boards support 19-inch landscape monitors in six modes from 36 to 120 dpi.
- **SilverView Monochrome Controller** for the SE, SE/30 and NuBus-based Macs were cut to $495 from $599. The cards interface with 21-inch monitors at 72 dpi.
- **SilverView GrayScale Controller** for NuBus-based Macs was dropped to $795 from $999. The board brings 256 shades of gray to 21-inch monitors at 72 dpi.

Some of Sigma's monitor prices were reduced as well. The price of the L-View 19-inch monochrome display, for example, was lowered to $1,295 from $1,500.

In addition, Sigma announced System 7.0 compatibility with its ColorMAX, SilverView, SilverView Portrait and PageView GS display cards. The L-View Multi-Mode and PageView cards require a free Sigma software upgrade for full System 7.0 compatibility. The Sigma Utilities software for the PageView GS also requires a free upgrade.

L-View NuBus display adapters purchased before May 1990 require a $200 replacement card.

Sigma Designs Inc. is at 46501 Landing Parkway, Fremont, Calif. 94538. Phone (415) 770-0100; fax (415) 770-2640. □

Bullet mixes acceleration, compression

By Raines Cohen

Fremont, Calif. — Sigma Designs Inc. last week shipped Bullet 030, a card that combines CPU acceleration and file compression for the Mac IIci and IIsi.

Bullet 030, announced earlier this year as the Bullet 3040 (see MacWEEK, April 8), uses a 50-MHz 68030 processor. In addition, it incorporates a 40-MHz lossless compression chip from Stac Electronics Inc. of Carlsbad, Calif., the same chip used in Sigma's DoubleUp compression card for NuBus-based Macintoshes. Using the included DiskDoubler 3.7 software from Salient Software Inc., the card can rapidly compress and decompress documents and applications as they are opened, under systems 6 and 7.0.

The $1,995 card includes SlotDoubler, an installation kit for the Mac IIsi that accepts any add-in card that fits both the Mac SE/30 and IIsi. In the Mac IIci, the Bullet 030 fits the cache slot, leaving the three NuBus slots free. An optional 20-MHz 68882 floating-point coprocessor can be added to the card in the IIsi for $195.

Sigma Designs Inc. is at 46501 Landing Parkway, Fremont, Calif. 94538. Phone (415) 770-0100; fax (415) 770-2640. □

ITC votes heavy active-matrix tariff; Apple may build new laptop offshore

By Henry Norr

Washington — In a move likely to force Apple to move production of its high-end laptop offshore, the International Trade Commission last week voted to impose a 62.67 percent tariff on Japanese active-matrix displays.

The PowerBook 170, the most powerful of the three Apple laptops due in October, incorporates an active-matrix screen, as does the current Mac Portable. The screens, manufactured for Apple by Hosiden Electronics Corp. in Japan, will be subject to the tariff adopted last week, but Apple could avoid the charge by shifting production to its factories in Singapore or Cork, Ireland.

"We haven't made a definitive decision, but frankly I don't see any alternative," said Jim Burger, Apple's senior trade counsel. "Moving production offshore *may* mean some increase in cost, but it won't affect availability. Believe it or not, Apple sometimes plans ahead. We thought we had this case won on the merits, but just in case, our manufacturing people have been working for a long time on contingency plans."

The ITC by a 3-to-1 vote approved a recommendation by the U.S. Department of Commerce, which last month found evidence that Japanese manufacturers were dumping the advanced screens into the U.S. market (see MacWEEK, July 16).

The extra charge on the sophisticated screens would add hundreds of dollars to the cost of the new laptop — a premium Apple officials have said would price their new model out of the highly competitive laptop market. Most DOS laptops use passive-matrix liquid-crystal displays, a technology not subject to tariff because last month's Commerce Department ruling found no evidence of dumping.

The case originated with a complaint filed last year by the Advanced Display Manufacturers of America, a trade organization representing the handful of U.S. flat-panel display manufacturers.

"It just doesn't make sense," Burger said. "Who does it benefit? These companies didn't have any ability to get into this market."

Burger said Apple is considering a court challenge, but that would take at least 18 months. □

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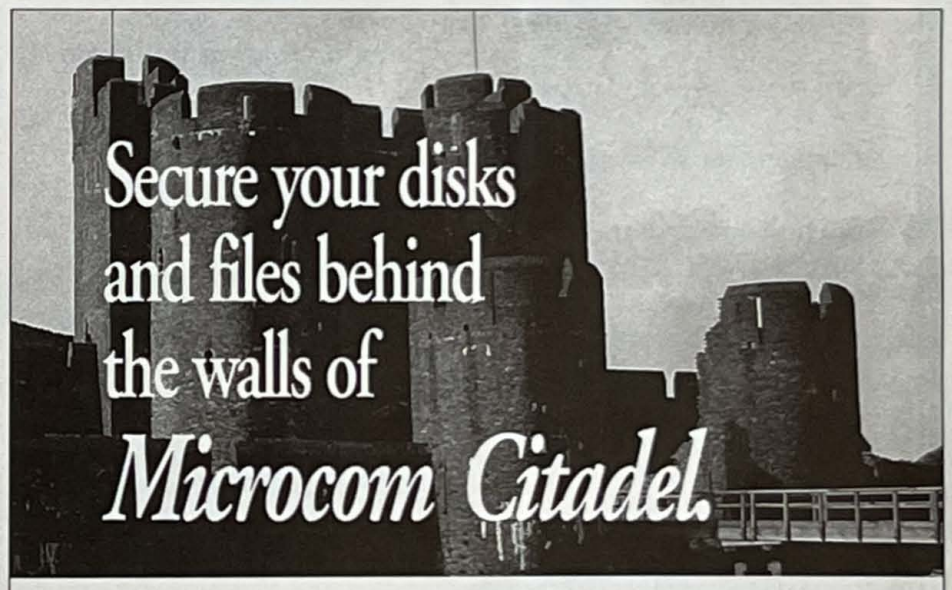

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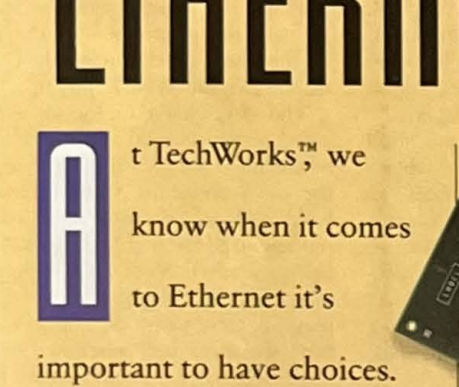

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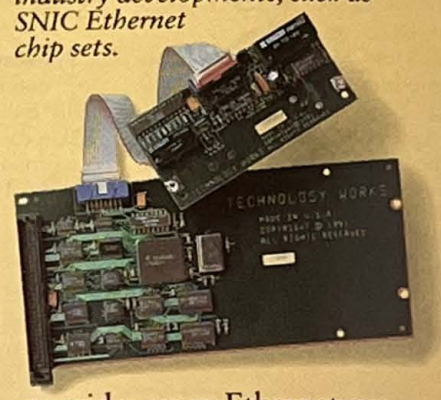

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09. Education
10. Finance: Banking, Accounting, Insurance, Real Estate
11. Health, Medical, Legal
12. Non-Computer Retailer, Wholesaler, Distributor
13. Agriculture, Mining, Construction, Oil, Transportation, Utilities

Computer Related

20. VAR/VAD
21. Retailer/Distributor
22. Systems House/Data Processing Service
23. Manufacturer (Computers, Software, Peripherals)
24. Computer Consultant
99. Other Businesses & Services (please specify) _____

2 Your Professional Title:

(Select one only.) Write Answer Here ➨ ☐

A. Chairman/President/Owner/Partner
B. VP/Controller/Treasurer
C. General Manager/Director
D. Micro Manager/Specialist/Coordinator
E. Project Manager
F. Art Director/Graphic Designer/ /Artist/Illustrator
G. Manager/Supervisor (not listed above)
H. Architect/Engineer
I. Systems Analyst/Programmer
J. Consultant/Advisor
K. Scientist
L. Educator
M. Editor/Writer
N. Professional (Doctor,Lawyer, etc.)
O. Accountant
P. Representative
Z. Other (please specify) _____

3 Your department/function at this location:

(Select one only.) Write Answer Here ➨ ☐

A. Engineering/Systems Engineering
B. Research & Development
C. Communications/Publishing/Public Relations
D. Art/Creative Design
E. MIS/DP/Information Systems
F. Manufacturing/Operations/Production
G. Sales/Marketing
H. Administration/Management/Personnel
I. Accounting/Finance
J. Education/Training
K. Science
L. Consulting
Z. Other (please specify) _____

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?

☐ Yes ☐ No

		Currently Owned (Quantity)	Plan to Buy (0-12 Months) (Quantity)
MODULAR	68030 Macintosh IIfx / IIci / IIcx / IIx 3		
	68030 Macintosh IIsi 4		
	68020 Macintosh II / LC 5		
	68000 Macintosh Portable 6		
COMPACT			
	68030 Macintosh SE/30 7		
	68000 Macintosh Classic 8		
	68000 Macintosh SE / Plus / 512 9		
OTHER			
	IBM/Compatible Micro 10		
	Workstation (e.g. Apollo, Sun) 11		

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year?

(Answer one only.)

A. Retailer: sold per year _____(specify quantity)
B. Reseller: resold per year _____(specify quantity)
C. Consultant: purchased by your clients through your firm's recommendations per year _____(specify quantity)
☐ D. Not Applicable

6 Please check the Mainframe(s) or Minicomputer(s) at your location:

(Check all that apply.)

☐ 01. VAX ☐ 02. IBM Mainframe ☐ 03. IBM Minicomputer ☐ 04. Other ☐ 09. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?

☐ Yes (if yes, check all that apply): ☐ No

Computers
☐ 01. Macintoshes
☐ 02. Workstations
☐ 03. Minis, Mainframes

Connectivity
☐ 10. Local Area Networks
☐ 11. Modems
☐ 12. Micro/Mini/Mainframe Links
☐ 13. Communication Software

Peripheral Equipment
☐ 20. Laser Printers
☐ 21. Color Printers
☐ 22. Color Monitors
☐ 23. Hard Disks
☐ 24. Backup Systems
☐ 26. Scanners
☐ 27. Input Devices
☐ 28. Removable Storage

Add-In Boards
☐ 40. Memory Boards
☐ 41. Graphic Boards
☐ 43. Ethernet Boards
☐ 44. Video Boards

Software
☐ 50. CAD/CAM
☐ 51. Graphics
☐ 52. Desktop Publishing/Fonts
☐ 53. Desktop Presentation
☐ 54. Database
☐ 55. Programming
☐ 56. Accounting, Payroll
☐ 57. Spreadsheets
☐ 59. Project Management
☐ 60. Word Processing
☐ 61. Utilities
☐ 62. Multimedia

8 If you answered yes to the above computer products, for how many Macintoshes do you have this involvement?

(Select one only.) Write Answer Here ➨ ☐

01. 1000+
02. 500-999
03. 100-499
04. 50-99
05. 20-49
06. 10-19
07. 1-9
09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have:

(Check all that apply.)

☐ 01. Local Area Network
☐ 02. Communicate with corporate workstations, mini or mainframe computers
☐ 03. Communicate with remote mini or mainframe computers
☐ 04. Communicate via modem
☐ 05. Voice/Data
☐ 09. Other (please specify)

10 Indicate how many employees there are in your entire company:

(Select one only.) Write Answer Here ➨ ☐

01. 1000 or more 02. 100-999 03. Under 100

11 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

Name _____

Title _____ Dept. _____

Your Signature _____

Title _____ Date ___/___/___

PLEASE BE SURE THAT ALL QUESTIONS ARE ANSWERED.

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Tactics adds data for U.K., Canada

Future version will include SequeLink

By Raines Cohen

Boston — Tactics International Ltd. announced at Macworld Expo here this month several enhancements and modules to its Tactician geographical information system application.

Tactician, which can be used as an executive information system and sales analysis and planning tool, includes a mapping engine, 3-D spreadsheet and other data-analysis tools. It costs $2,500 to $5,500, depending on the amount and detail of included geocode and demographic data.

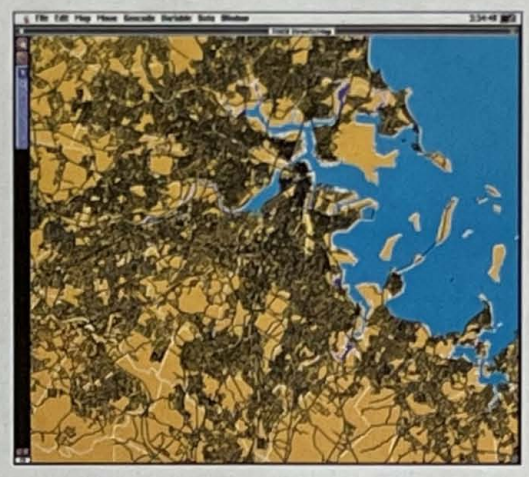
The enhancements include:

▸ **Foreign maps and data.** The company released detailed cartographic and data files for the United Kingdom and Canada.

Tactician for Canada will include provincial boundaries, street intersections, demographic cartography, shopping center locations and roads.

Compusearch Market and Social Research Ltd. of Toronto supplied marketing information, including lifestyle demographic data, census demographics, consumer spending potential and 1990 demographic projections.

The cartographic files will sell for about $1,300 to $4,200; data files will run $3,000 to $21,000, depending on the U.S.-Canadian exchange rate.



Tactician provides maps with detail down to street level, like the one of Boston pictured here, for marketing and sales analysis.

Tactician for the United Kingdom will include postcode and postal district boundaries, postal sector boundaries, primary roads, motorways, and secondary roads.

The U.K. cartographic data files will sell for $13,500 to $14,600; market data files will range from $5,000 to $30,000.

▸ **U.S. data.** Tactics is offering three types of data on the United States: supermarkets, demographics and hospitals.

Chicago-based SMG Marketing Group Inc., a health-care database publisher, created a Hospital Database for use with Tactician. The database contains more than 90 items for more than 7,600 U.S. hospitals, as well as local and regional summaries. The data is available from Tactics for $300 to $800 per module. A full set sells for $6,950.

Progressive Grocer's Trade Dimensions, owned by Maclean Hunter Ltd. of Toronto, created Supermarket Database, containing information on more than 30,000 U.S. supermarkets, for use with Tactician. Data includes name, ownership, suppliers, physical characteristics and geographic indicators. The database sells for $42,500.

Urban Decision Systems Inc., a census data supplier based in Milford, Conn., released nine demographic, socioeconomic and business data modules through Tactics. The modules include Standard Population, Household and Business Data; Age Data; Retail Trade Data; and Retail Potential Data. Modules are summarized by state, county, metropolitan statistical area, dominant marketing area, area of dominant influence, ZIP code and census tract. Modules range from $195 to $1,495.

▸ **Data access.** Tactics announced that a future version of Tactician will incorporate SequeLink, a SQL data-retrieval tool from TechGnosis Inc. of Boca Raton, Fla. The new version is due late this year.

Tactician, which requires a Mac II-class machine, includes a 90-day warranty, telephone support and updates. Extended support also is available.

Tactics International Ltd. is at 16 Haverhill St., Third Floor, Andover, Mass. 01810. Phone (508) 475-4475 or (800) 927-7666; fax (508) 475-2136. □

Take Two Steps up for more RAM

By Raines Cohen

Boston — Computer Care Inc. announced at Macworld Expo here this month Two Step, a memory expansion board that enlarges the RAM capacity of some Macs. An extension of the company's Softstep add-ins, Two Step not only lets users fit two SIMMs (single in-line memory modules) in slots designed for just one, it lets otherwise incompatible Macs use 4-Mbyte SIMMs.

▸ **Mac II and IIx.** When the Mac II and IIx were designed, 4-Mbyte SIMMs were still on the drawing board. Unfortunately for Apple, the hardware architecture of the machines puts 4-Mbyte SIMMs into test mode. As a result, the expansion capability of the CPUs has been relatively limited, even though the systems can address up to 128 Mbytes of RAM.

The $179 Two Step for the Mac II and IIx removes this limit, allowing expansion of up to 64 Mbytes of RAM. Using the RAM, however, may require software such as Mode32 from Connectix Corp. of Menlo Park, Calif.

The Two Step plugs into two SIMM sockets; it includes four SIMM sockets. The Two Step allows certain configurations otherwise impossible or unreachable with the Mac II and IIx (see chart below).

▸ **Mac LC.** Different physical and logical constraints in the Mac LC led Computer Care to design a different product, Two Step for the Mac LC, to assist expansion in that machine. The $29 device plugs into a SIMM socket and includes two sockets.

Both Two Steps will ship next month. The company said it will release cards for the Mac IIcx and IIci later this fall. All the company's products include a one-year warranty.

Computer Care Inc. is at 420 N. Fifth St., Suite 1180, Minneapolis, Minn. 55401. Phone (612) 371-0061 or (800) 950-2273; fax (612) 371-9342. □

Sample Two Step configurations

CPU	TOTAL RAM	TWO STEP CONTAINS NO. OF SIMMS	SIMM SIZE
Mac LC*	6	4	1
	10	4	2
	10	2 1	2 4
Mac II,IIx	12	12	1
	20	4 4	4 1
	36	8 4	4 1
Mac IIx	32	8	4
	48	12	4
	64	16	4

RAM, SIMM sizes given in Mbytes. Other configurations are possible.
**Includes 2 Mbytes of on-board RAM. Source: Computer Care Inc.*

News BRIEFS

MacroMind goes into Action! with Windows

San Francisco — MacroMind Inc. will start doing Windows in September when it ships Action!, a new IBM PC-based multimedia presentation program.

MacroMind, best known for its MacroMind Director animation software, has put together a $495 program that eases the process of creating multimedia presentations — on PCs running the Microsoft Windows operating system.

A Mac version of Action! will be available in the first quarter of 1992, according to the company.

Action! will ship with templates into which users simply insert their own text, graphics, sounds and animations to quickly create presentations. The program also includes a Clip Media Library, containing clip sounds, graphics and animations.

To read Director files created on a Mac, Action! requires MacroMind's $995 Windows Player.

MacroMind Inc. is at 410 Townsend St., Suite 408, San Francisco, Calif. 94107. Phone (415) 442-0200; fax (415) 442-0190.

ComGraphix maps out new prices for modules

Clearwater, Fla. — Prices go up. Prices go down. Proving that that paradigm applies to the Mac world, ComGraphix Inc. last month announced a host of price adjustments for its mapping system modules.

▸ **MapGraphix GIS (geographic information system),** which lets users create maps, change map types or map data, is now $4,995, down from $8,500.

▸ **MapLink,** a translation module for importing and exporting different formats, has increased to $995, up from $495.

▸ **MapGraphix Display,** a runtime version of the full GIS product, is now $995, up from $850.

ComGraphix Inc. is at 620 E St., Clearwater, Fla. 34616. Phone (813) 443-6807; fax (813) 443-7585.

Developers can dial up help with new directory

San Francisco — Mac software developers now have a Yellow Pages of their own with the MZ Group's Macintosh Development Services Directory.

The first issue of the directory, expected to be released twice a year, is available for $29.95. It includes information on almost 1,000 contacts in the areas of technical training, software development, contract programming, product localization, product testing, technical writing and technical support. A separate geographic index and phone list is included.

"We're very excited. Being a service organization, we've found it difficult to get our message across," said Anthony Meadow, whose Berkeley, Calif.-based consulting and training company, Bear River Associates Inc., is among the directory's sponsors. "I think more and more companies are finding that services are just as important as products, but there haven't been any channels of communication available."

The MZ Group is at 221 Main St., Suite 700, San Francisco, Calif. 94105. Phone (415) 543-8290 or (800) 974-1100, Ext. 400; fax (415) 543-8232.

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PC-Interface: 1 server, 4 platforms

Mac, DOS, Windows, Unix use one server

By Mitch Ratcliffe

Inglewood, Calif. — Users hungering for four flavors of computing in a single file and print server will like the taste of Locus Computing Corp.'s new PC-Interface for the Macintosh. The new software lets Mac, DOS, Windows and Unix clients share a single Unix-based server.

Shipping now for $360 per user, PC-Interface for the Macintosh is a package that creates an AppleShare-compatible file server on top of the Unix operating system. It currently works with Unix System V/386 or Open Desktop from The Santa Cruz Operation Inc. of Santa Cruz, Calif., and 386/ix Unix from Santa Monica, Calif.-based Interactive Systems Corp., both of which run on IBM PCs or compatibles.

Macs physically connected to the server via an Ethernet card (or LocalTalk-to-Ethernet gateway) use Apple's standard AppleShare client software to connect to the PC-Interface server through the Chooser.

After logging on, Mac users can browse directories and files on the server, whether created by Mac, DOS, Windows or Unix clients. PC-Interface works invisibly to convert Unix directories and subdirectories into customized icons within folders on the Mac desktop. Managers map icons to file types.

The server automatically converts between Unix's end-of-line termination and Mac and PC text formats so that text files created on PC-Interface Mac, Unix, DOS or Windows clients are accessible to all.

The server will not translate between file types other than text. However, the cross-platform formatting capabilities built into some applications, such as Microsoft Corp.'s Microsoft Word or Lotus Corp.'s Lotus 1-2-3, let users on different platforms work on the same documents stored on the server. For example, a Mac user need only click on a Frame Technology Corp. FrameMaker document created by a Macintosh or Unix workstation to access it.

Managers use a Unix utility that comes with PC-Interface for the Macintosh to administer the server. The utility lets managers set up a server name; add and delete shared volumes; and manipulate users, groups and access rights.

PCIterm, a terminal-emulation application included with PC-Interface, lets Mac clients run Unix applications on the server or access other Unix services, such as electronic mail, directly. PC-Interface also allows programmers to use Mac word processing applications to edit Unix code.

Also available now, Locus' $500 Print Services allows PC and Unix users to send either PostScript files or non-PostScript files to an Apple LaserWriter printer. Print Services encapsulates non-PostScript files in PostScript on the fly. Macs and PCs also can print to Unix queues.

Locus Computing Corp. is at 9800 La Cienega Blvd., Inglewood, Calif. 90301. Phone (213) 670-6500; fax (213) 670-2980. □

What PC-Interface offers

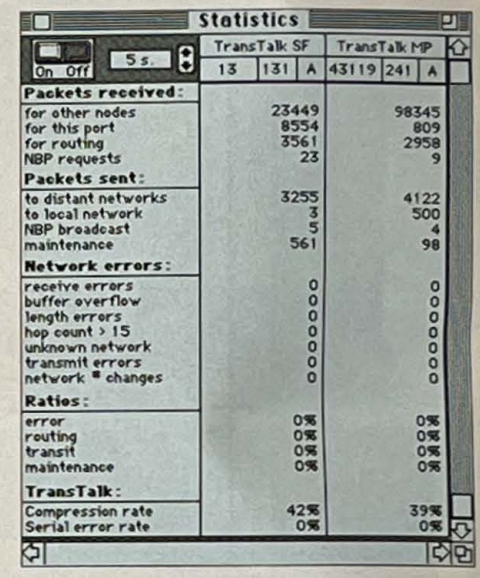
- Cross-platform file sharing and print services for Mac, Unix, DOS and Windows
- AppleShare-compatible file services on cheaper Intel-based machines
- Direct Mac access to Unix services through a terminal emulator

International Transware brings internetwork, WAN builders to U.S.

By Mitch Ratcliffe

Mountain View, Calif. — AppleTalk with a European accent landed on the shores of the United States this month as International Transware Inc. introduced two routers for building internetworks and wide-area networks.

The $599 InterTalk router for connecting LANs at a single site and the $899 TransTalk half-router, which allows users to connect remote LANs by dial-up or dedicated telephone lines, are available now. The routers are the first products from Transware, a U.S. company that purchased the product line from French Macintosh developer and distributor P'Ingenierie earlier this year.



International Transware's router-management software tracks the TransTalk router's performance and compression.

TransTalk provides both asynchronous and synchronous links between remote AppleTalk LANs, allowing it to work with either dial-up or dedicated telephone lines (see story below).

A unique call-back feature lets administrators increase network security by setting TransTalk to screen dial-up users. TransTalk identifies a caller, hangs up and calls back to a specific telephone number associated with that user to initiate a network connection. Zones and individual printers can be hidden from remote users.

InterTalk, a two-port LocalTalk router, offers the ability to create "blind" and "private" zones on a network. Users in a blind zone cannot see network resources outside their zone, although the rest of the network has access to the zone. Private-zone users have access to the entire network, although devices in their zone are unavailable to others. A user password can override either configuration to provide full network access.

Both routers include direct memory access to the router CPU, which Transware officials said increases local and remote file transfer speeds by at least 50 percent over other routers. Management software included with the routers provides diagnostics for network traffic; router performance; and compression statistics for TransTalk, which compresses data on the fly.

International Transware Inc. is at 800 El Camino Real W., Suite 180, Mountain View, Calif. 94040. Phone (415) 968-8888; fax (415) 324-2020. □

Packet/3270 Mac lets users log onto SNA nets via modem

By Mitch Ratcliffe

Farmington, Conn. — The Mac-to-IBM mainframe connection has never been a flexible or inexpensive arrangement, but a new terminal-emulation application from Telepartner International Inc. provides users with their first opportunity to log onto a Systems Network Architecture network using their modem.

Shipping now, the $295 Packet/3270 Mac 2.0 lets users dial up IBM SNA 3270 mainframe applications via their modem at speeds of up to 9,600 bps. With Packet/3270, users also have the option of making the connection over a public packet-switched network, carriers that provide compressed, high-speed transmissions. Telepartner said users could save between 30 percent and 50 percent of the long-distance costs of an ordinary dial-up connection by using packet-switching services.

Users can dial directly into an IBM mainframe if the host is running the $20,900 Packet/3270 server; the software comes with 20 copies of Packet/3270. Users also can dial in through an IBM-compatible PC running the $15,400 Packet/3270 Gateway. The gateway acts as the Packet/3270 server, passing Mac commands to the mainframe as ordinary 3270 terminal commands. The gateway also comes with 20 copies of the Packet/3270 emulator.

The emulator takes advantage of IBM Corp.'s SNA interapplication communications features to transfer files or run several mainframe applications simultaneously.

Packet/3270 2.0 also supports Connectivité Corp.'s front-end design environments, called Both and Masquerade3270 (see MacWEEK, July 16).

Telepartner International Inc. is at 135 South Road, Farmington, Conn. 06032. Phone (203) 678-1961; fax (203) 674-8234. □

HyperHIT links users, Hyper databases

By Wade Williams

South Dartmouth, Mass. — SoftStream International Inc. last month began shipping its HyperHIT-Network database server.

Priced at $600, HyperHIT-Network operates as the link between five networked users and HyperCard databases created with the company's HyperHIT or HyperHIT-Relational. Other users can be added at a cost of $200 for groups of five. The product supports a maximum of 55 users.

"What we like about HyperHIT-Network is its database engine," said Jerry Daniels of Daniels & Mara Inc., an Austin, Texas-based consulting company. "It doesn't bother me with an interface; it lets me provide the interface I need."

Users of HyperHIT or HyperHIT-Relational may purchase the product for $400.

SoftStream International Inc. is at 10 Twin Pond Road, South Dartmouth, Mass. 02748. Phone (508) 991-4011; (800) 262-6610; fax (508) 991-4223. □

Synching up remote LANs over phones

You've got two choices when linking remote LANs on a telephone line: an asynchronous or synchronous connection.

Modems provide asynchronous connections over the standard analog lines used for voice communications. Dedicated lines, such as T-1 or ISDN (Integrated Services Digital Network), on the other hand, have their own timing capabilities, so LANs can operate synchronously over them.

Modem connections are sloppy; messages are sent at irregular intervals because the two LANs are running on different clocks. And since transmissions cannot be timed, control bits need to be added to packets to identify the order in which they should be decoded. At least 20 percent of traffic sent across an asynchronous connection is dedicated to management, according to common estimates.

Synchronous connections, however, act like an ordinary network cable, allowing the two LANs to synchronize their clocks.

The LANs can therefore send packets without the additional overhead to control timing, raising the effective speed of the wide-area network. — *By Mitch Ratcliffe*

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LTi links remote LANs at 56 Kbps

By Mitch Ratcliffe

Aptos, Calif. — Speed has been the biggest problem in building a wide-area network, but Engage Communications Inc. has drilled a 56-Kbps data channel between remote LANs with the new Synchrouter/LTi.

Shipping now, the $2,495 router makes a connection between remote AppleTalk LANs using available dedicated digital telephone lines.

"With the LTi, I can use [Farallon Computing Inc.'s] Timbuktu to assist anyone in our four offices with data or printing problems," said Paul Hurley, director of MIS for McDonough, Holland and Allen, a Sacramento, Calif., law firm. He administers a 220-node network in Northern California from his office using the LTi router.

Users on LANs connected by two LTi routers will see all the resources of both networks in their Choosers. Users said performance is nearly as good as ordinary LocalTalk connections.

Engage includes dialing service in the LTi, which supports ISDN (Integrated Services Digital Network) and switched 56-Kbps dial-up services if users add a terminal adapter to handle the connection.

Engage Communications Inc. is at 9053 Soquel Drive, Suite 203, Aptos, Calif. 95003. Phone (408) 688-1021; fax (408) 688-1421. □

Mathematica 2.0: the standard for technical computing

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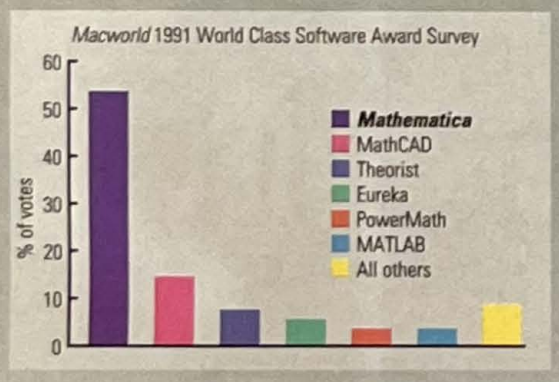

Mathematica has also received best software/new product awards from:

Macworld, 1990-91
Discover, 1990
BYTE, 1989
MacUser, 1989
Business Week, 1988
InfoWorld, 1988

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217-398-0700; fax: 217-398-0747; email: info@wri.com.

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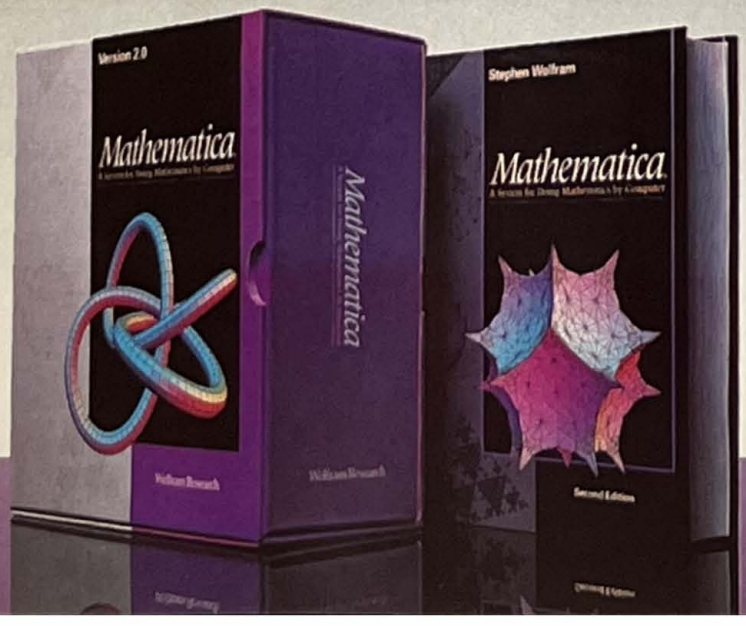

Gateways BRIEFS

WRQ adds Comm Toolbox extension

Seattle — Walker Richer & Quinn Inc. last month added its own extension to the Macintosh Communications Toolbox, providing TCP/IP connectivity with its new Telnet Connection for Macintosh.

Shipping now, the $129 Telnet Connection tool lets users of any Comm Toolbox-aware application conduct Telnet and FTP (File Transfer Protocol) sessions from a customizable environment.

Telnet Connection lets users select appropriate terminal-emulation and FTP settings for browsing and downloading files stored on a mainframe. It requires Apple's MacTCP.

Walker Richer & Quinn Inc. is at 2815 Eastlake Ave. E., Seattle, Wash. 98102. Phone (206) 324-0350; fax (206) 322-8151.

EMAC ships fax, data modems

Fremont, Calif. — EMAC recently shipped a new miniature fax modem and V.32 data modem.

▸ **EMAC 24/96,** a pocket-sized 9,600-bps fax and 2,400-bps data modem for the Macintosh, weighs 4 ounces and features MNP Level 5 data compression and Level 4 error correction. The modem comes bundled with Abaton's InterFax 1.24 fax software.

▸ **MD 9600,** a $649 9,600-bps Mac modem, also with MNP levels 4 and 5, comes bundled with Abaton's InterShare software.

EMAC, a division of Everex Systems Inc., is at 48431 Milmont Drive, Fremont, Calif. 94538. Phone (415) 683-2222; fax (415) 651-0728.

Tri-Data upgrades Netway 3270

Santa Clara, Calif. — Tri-Data Systems Inc. is shipping its Mac Netway Advanced 3270 terminal-emulation application, an upgrade to its Netway 3270 Systems Network Architecture gateway.

The $195 application adds support for IBM 3179G/3192G All Point Addressable (APA) graphics and supports up to eight simultaneous terminal sessions in only 700 Kbytes of RAM. Previous versions required 400 Kbytes for each of the sessions.

Tri-Data Systems Inc. is at 3270 Scott Blvd., Santa Clara, Calif. 95054. Phone (408) 727-3270; fax (408) 980-6565.

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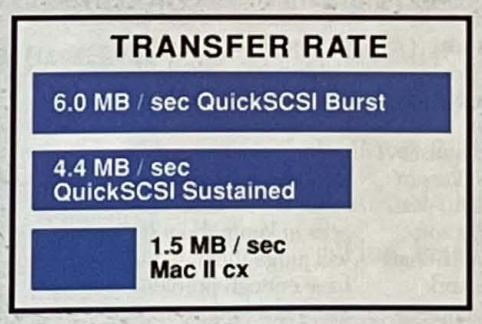
Improve your Mac's SCSI performance by up to 400%.

Eliminate the SCSI bottleneck. QuickSCSI allows data transfer rates up to 4.4MB/sec. and beyond. That's more than twice as fast as the Mac's built-in SCSI, because QuickSCSI uses a wider data path. And because QuickSCSI doesn't disable the built-in SCSI, you can have up to 14 SCSI devices online at a time.

Set-up is easy, because QuickSCSI is compatible with most popular disk drives, including internals.

And you can install it in any NuBus Macintosh. Get all the performance your fast drives can give, use QuickSCSI.

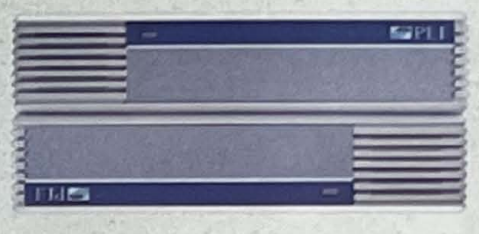


*$599 suggested retail, $399 when purchased with a PLI drive.

Mirroring

QuickSCSI provides automatic, continuous backups.

Everything you write to the main drive will be written to a second drive at the same time. If one drive crashes, you can bring the second drive online in seconds.



You never have to Re-create data or waste time restoring.

Mirroring is by far the safest, most-reliable way to maintain current backups of your important data. And QuickSCSI uses a fast-burst, disk mirroring technique which is so fast and easy, you may never do a traditional backup again.

Mirroring is useful to everybody.

It's ideal for network administrators, desktop publishers, computer artists or anyone who hates to make backups.

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Net trafficking: The copyright rift

File servers and file sharing make illegal copying of software far easier, but program licenses lag behind current technology.

By Mitzi Waltz

Have you ever read the tiny print that spells out your software licensing agreements? Do you actually understand what it means?

One more question: Do you know how System 7.0 affects these licenses? Most network managers are too busy trying to figure out how the new Macintosh operating system will affect network traffic and data security to get involved with translating legalese. But since users can potentially access software on any networked machine, the distinctions ruling single-user and multi-user licenses are beginning to blur.

Where they stand. MacWEEK contacted Adobe Systems Inc., Claris Corp., MacroMind Inc., Microsoft Corp. and other software developers to find out how they're handling the dilemma of licensing software in an increasingly networked world. Even though some, such as Seattle-based Aldus Corp., already have special network licenses, most are still examining System 7.0 and have not yet determined what their response will be.

Others seem to have been caught unaware. Denver-based Quark Inc., for example, has a machine-based license agreement that does not allow its QuarkXPress application to be placed on any shared volume. Does that mean XPress users running System 7.0 cannot enable file sharing? Quark's legal counsel declined to answer.

Others were more forthright. "With HyperCard 2.1, which is our first application really geared for [System] 7.0, we're being more broad-minded about things," said Steve Ruddock, public relations manager at Claris in Santa Clara, Calif. Claris' latest licenses recognize concurrent use as a reality, stipulating only that licenses be purchased to cover the number of users accessing the program.

Other vendors fall somewhere in between. "[Our applications] support the System 7 share stuff, but that's not part of our license agreement," said Scott Walchuck, director of product management at San Francisco-based MacroMind. "You would be challenging the integrity of the software license by placing it on a shared volume."

Several respondents pointed out that, from a legal point of view, there is no difference between a server and a shared hard disk. Large companies, such as Redmond, Wash.-based Microsoft, seem inclined to allow software to be placed on shared volumes. "Our software [can be] available for use by more than one person, but for every copy you have installed on a hard disk, you need a license, plus a license for every concurrent user," said Ron Davis, manager of corporate accounts marketing for Microsoft. Davis defined concurrent users as people who will access the program from a server or shared hard disk, a definition different from that used by most vendors.

Smaller vendors were more adamant about limiting availability to a single employee. "Anything that could allow two people to be using one purchased software package at the same time would violate the site license," said Mike Saia, a representative from Edmonds, Wash.-based Linguist's Software Inc., which specializes in foreign-language packages for academic users. The company's software is often licensed to individuals by name — a five-user network pack at a university, for example, might be licensed to five specific professors and no one else. Most vendors' multicopy license agreements, however, are copy-based. Buyers need to purchase only enough copies to cover the number of users running the program at once, not one for every computer or user on the network.

Internal controls. Some of Claris' programs facilitate concurrent use; they automatically track use and limit simultaneous users to a prepaid number. Other companies said such features are not practical to add at this time, but a few said that their programming staffs are looking into similar controls.

Mountain View, Calif.-based Adobe, among others, works in the opposite direction with software that searches for illegal copies and stymies unauthorized users. "If the company is not licensed except under a single-user license, the software will check the network for unauthorized copies and inform the user," said Colleen Pouliot, general counsel for Adobe. "We have not received complaints from users," she added. Most of the other vendors questioned said they too wanted to avoid any features that might annoy users.

Linguist's, which identifies itself as a company run "on Christian principles," offered an unusual reason for avoiding copy-protection: "If a person is going to steal, he will steal. We shouldn't tie our stomachs in knots about it, because God will judge them — they're going to have enough problems in their life," Saia said.

Most vendors said the method of license management should be up to the company that purchases the product. University installations, for example, have many casual users who may be more prone to copying software, and those sites may therefore have more security needs than companies with regular work forces.

Aldus sells special teaching versions of PageMaker that foil classroom pirates by adding a permanent message on every printed page, making the output unfit for professional use. Other security measures that might be appropriate for different sites include periodically checking hard disks, monitoring software in use via the network or simply putting programs under lock and key when not in use.

More management strategies. One solution to staying legal is installing a software package that makes licensing agreements concrete by preventing illegal access. Two such packages, KeyServer from Sassafras Software Inc. of Hanover, N.H., and Quota from Proteus Technology of Edmonton, Alberta, are currently available. Both give network managers tools to track program usage and to enforce software licenses over networks (see story, Page 21).

Many managers are looking at such products with interest, according to Brian Comnes, chairman of the feedback committee of Managing Apple Computers in Information Systems (MacIS). "Software costs are of concern," Comnes said. "If there's a way to get software shared and not violate licenses,

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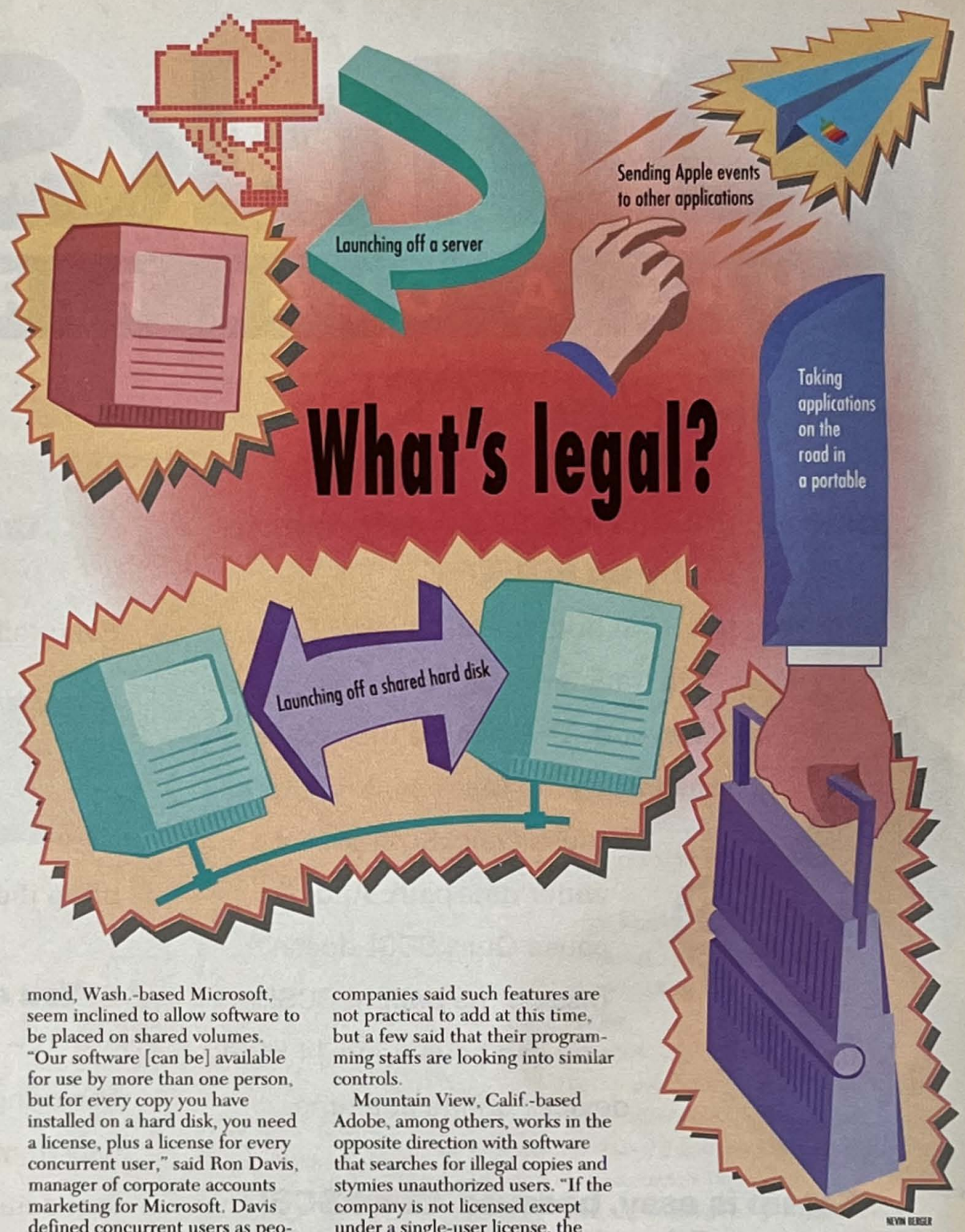
Launching off a server
Sending Apple events to other applications
What's legal?
Taking applications on the road in a portable
Launching off a shared hard disk

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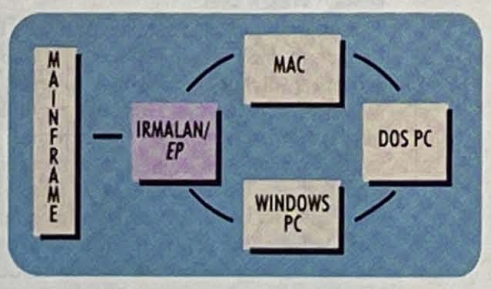

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*Windows client software is not yet available for the Novell IPX/SPX protocol. ©1991 Digital Communications Associates, Inc. All rights reserved. DCA is a registered trademark and IRMALAN, MacIRMALAN, IRMA, and RamXpander are trademarks of Digital Communications Associates, Inc. All other brand and product names are trademarks or registered trademarks of their respective owner.

Licenses

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we're interested. We want to be above board." MacIS is pressuring Apple to add hooks in future system software to support LAN licensing, Comnes said.

Network-based solutions were welcomed by all vendors that we contacted. Besides Mac programs, AppleTalk networks that include larger computers might be able to take advantage of software checkout programs housed on those machines.

Portability counts. Although such use may be a technical violation of many licenses, most vendors contacted by MacWEEK seem willing to look the other way if a buyer copies an application for use on a Macintosh Portable or even a home machine, as long as the buyer uses these machines for business-related work. The response of one vendor, who asked to remain anonymous, was typical: "You can put [our software] on your Portable or home machine, but don't tell us."

Microsoft may have been the first Mac vendor to actually write a home-use provision into its licenses, but it has since been joined by Aldus and others. "We were really looking at the way people were using our software," Microsoft's Davis said. "They need to be able to take their work with them, [and] it's unrealistic to expect people to buy another copy or to de-install it from their hard disk."

Nervous vendors. One gray area that's somewhat more confusing involves the use of Apple events to send commands and data between programs running under System 7.0. Developers are working on versions of their software to take advantage of this new capability, but their legal counsels are unsure whether such use violates current licensing agreements.

"If you go into a shared volume to use a program, you're making a copy of that program [in RAM] — the act of uploading it from someone else's hard drive or server is

See Licenses, next page

Software police nab latest license violator

University networks are especially vulnerable to license misuse because their contents are available to so many people. Perhaps that's why a software piracy raid on the University of Oregon's Continuation Center in Portland this spring made managers of other large networks more than a little nervous. The raid, like others before it, originated with a complaint to the Washington, D.C.-based Software Publishers Association.

What can managers do to make sure they don't become an SPA target? Understanding the license agreement for each package at their site is a good first step. "There are basically five types of software licenses," said SPA Executive Director Ken Wasch. "You can license to the machine, to the user, to simultaneous use, to the file server, or [you can grant] a site license. There's even a sixth way: by copy, not by use." If you can't get through the jargon in your agreements, you should call the vendors for clarification.

Wasch said misuse — buying a five-user package for 15 employees, for example — is a pervasive problem. He suggested that what's needed is a new way of looking at software. "How many times have we gone to the library to check out a popular book and been told, 'All the copies are in circulation. Can you come back another day?,' " he said. "The librarian doesn't keep an extra copy under the counter to duplicate for you." And the responsibility for ensuring compliance, he said, falls squarely on the shoulders of network managers, and ultimately, their employers.

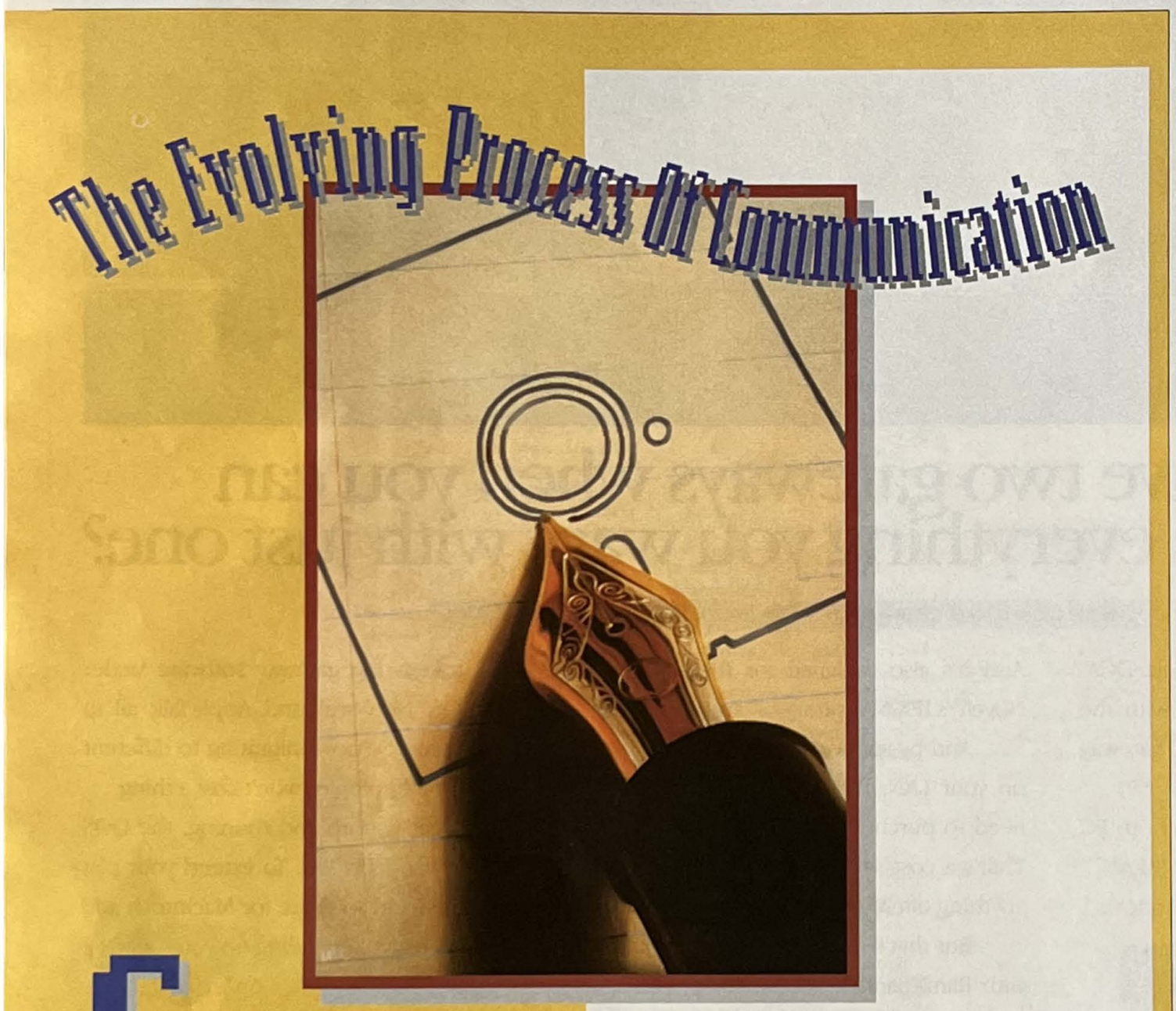
Wasch said that any packages that run over networks should be equipped with systems that can limit use. "Microsoft's movement toward concurrent use is probably a significant development, but in my view, concurrent use without a counter and lockout system just doesn't make sense," Wasch said.

Programs such as Sassafras Software Inc.'s KeyServer and Proteus Technology's Quota may provide a solution. "I think they're great, and MIS managers like them because they take the burden off their shoulders," Wasch said.

The University of Oregon case may soon be settled. If not, it will go to court in December. Damages will be calculated by adding up the retail value of the unlicensed software found at the site. Settling out of court should reduce the tab. There have been other SPA-instigated raids, all on corporate sites. Ninety percent of these investigations began when someone, usually an employee, consultant or temporary worker, called (800) 388-7478, the SPA's software piracy hot line.

The future belongs to networked systems and software that runs on them, Wasch said. "[On networks], software becomes like a shared peripheral," he said. "That means attention to licensing agreements is imperative."

Licensing agreements should also become easier to read, he added. "We're seeing more standardization. I think the industry is making progress in making them more understandable," Wasch said. — By Mitzi Waltz



Coming October 2-4, Seybold Seminars gathers the people, issues, products and experience into a "must attend," once-a-year event for users and vendors in creative communications. The **Seybold Computer Publishing Expo** is the place to find the entire universe of design, desktop and professional publishing and multimedia solutions with 250 exhibitors all in one location and dozens of new product launches. During the Expo, attendees can take part in the unique interactive learning environment, **Gutenberg's Garage**, with demonstrations from Apple, Barneyscan, Electronics For Imaging, Kurta, NeXT and Sun Microsystems. If you attend only one show this year, make sure it's Seybold. **Save $10 at on-site registration with this ad.** Get Expo & Gutenberg's Garage admission for only $20. One discount per person. No one under 18 will be admitted. Expo hours: 10am to 5pm, Wednesday and Thursday, October 2 and 3. 10am to 3pm, Friday, October 4. San Jose Convention Center, 150 San Carlos Street, San Jose, California. Downtown rail stop "Convention Center." **For a free event brochure call:** (800) 777-6650, ext. 1 or (213) 457-5850. See the Seybold board on AppleLink for up-to-date event information.

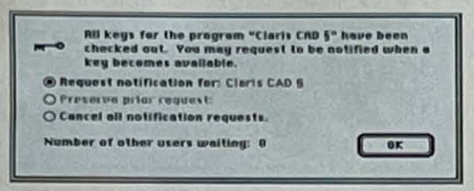
KeyServer and Quota: The license enforcers

Two packages, KeyServer from Sassafras Software Inc. and Quota from Proteus Technology, may help network managers enforce license agreements and reduce illegal copying while allowing common access to software.

Denis Devlin, president of Hanover, N.H.-based Sassafras, said he doesn't want users to think of KeyServer as a "pirate buster."

"It's a library, not a policeman," Devlin said. The program costs $15 to $47 per user, depending on the type and size of installation.

KeyServer "makes the sharing of both data and programs much easier for people," Devlin said. Acknowledging the reality of program sharing over Mac networks, KeyServer controls software


All keys for the program "Claris CAD §" have been checked out. You may request to be notified when a key becomes available.
Request notification for: Claris CAD §
Preserve prior request
Cancel all notification requests.
Number of other users waiting: 0
OK

KeyServer works by altering applications so they check with a networked database before launching. If the KeyServer database indicates all licensed copies are in use, an alert like the one shown above appears.

use the way a librarian controls reference books: Only the number of users covered by license agreements can use a program. If more users ask to run a program, they're put in line and notified when the application is available.

The package, which runs on AppleTalk networks, also includes tools that let managers log program usage, automatically update programs to the latest versions and notify users with custom messages, such as "This version of FileMaker is obsolete; support will end July 1," Devlin said.

Future versions of KeyServer will include authentication and authorization features, and the company plans to introduce a "lite" version for small sites to handle license management only.

"Software companies are evaluating how to structure licenses to take advantage of this technology," Devlin said. "It comes down to money in the end."

Robert Bolt, president of Edmonton, Alberta-based Proteus, agreed. "Software licensing agreements are archaic — they were written at a time when those abilities to monitor and control use weren't there," he said.

Proteus' Quota, priced at $695 for up to 50 simultaneous users, offers features similar to KeyServer's.

Software companies have responded to his product with cautious interest, Bolt said. "Software vendors have a tendency to give positive verbal feedback but not to put it in writing," he said. But many vendors that specialize in packages for academic users or large corporate sites, including Claris Corp. and WordPerfect Corp., are evaluating how to structure site licenses to take advantage of this technology, he said.

"The new version of Claris' HyperCard speaks to the number of copies in use rather than the number of copies on the network," Bolt said. "We're going to be seeing a lot of [similar] changes over the next one or two years."

The key to staying legal is to make obeying the law easy, which these packages do. According to Sassafras' Devlin: "If you imposed a system that frustrated people at all they'd go back to the old way of sharing software [via illegal floppy copies]. They'd ignore it — they always have." — By Mitzi Waltz

Licenses

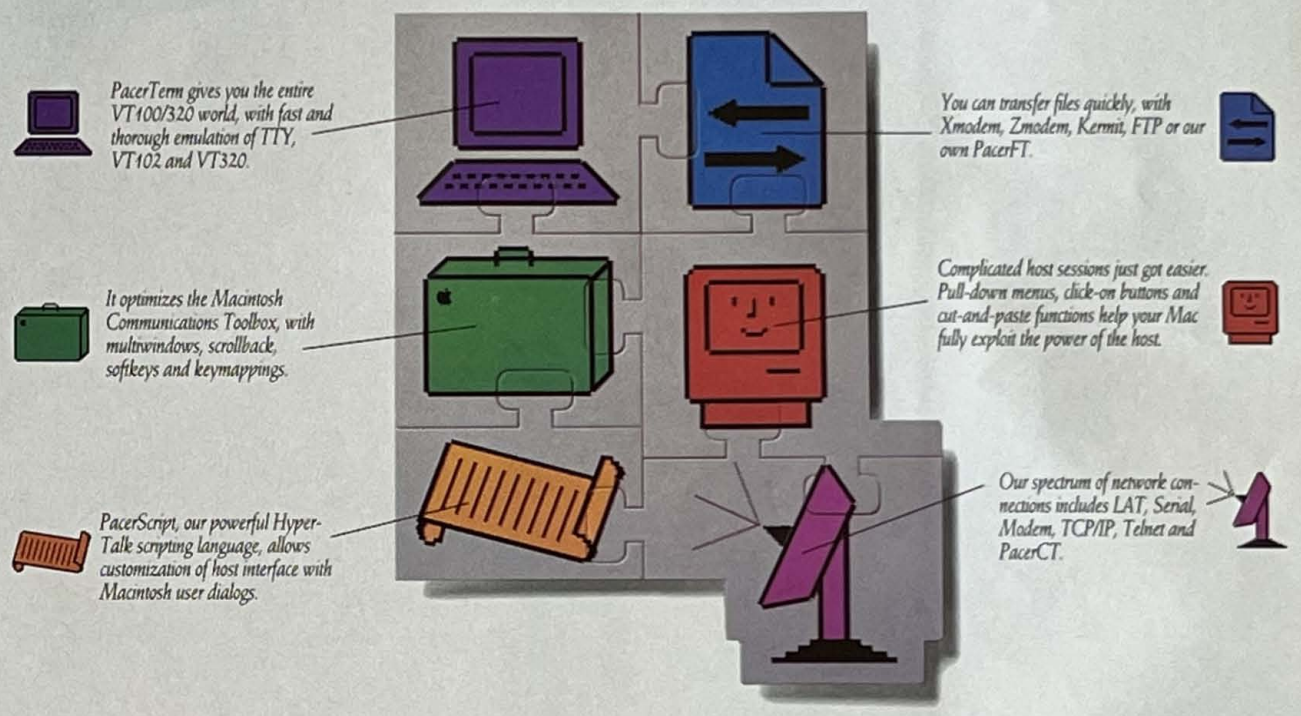
From previous page

just like copying," said Aldus General Counsel Curt Blake. "That's what copyright law is all about. It doesn't matter that it disappears as soon as you turn off the machine." But Apple events are different; they allow programs on the network to be used without copying. The potential for Apple-event servers — centrally located Macs running software that other programs routinely access via Apple events — raises copyright questions that few companies are ready to answer.

When confronted with an Apple-events-server scenario, Aldus' Blake joked, "[Users] wouldn't need to buy as many copies? Sounds great so far. I really don't think I can comment on that one."

Indeed, income from sales of multiple copies are at the heart of software licensing agreements. According to a study of the DOS software market conducted by the Washington, D.C.-based Software Publishers Association, most concurrent-use licenses cost significantly less than individual licenses for the same number of copies. Embracing new technology for network control and expanding shrink-wrap agreements to include the realities of portable computing and file sharing may result in lower profits. Although some vendors are testing the waters, in the final analysis few are willing to write licenses that stray from commonly accepted copyright conventions without further market pressure. □

Macintosh Communications?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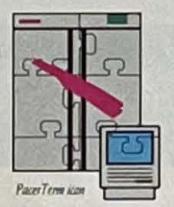

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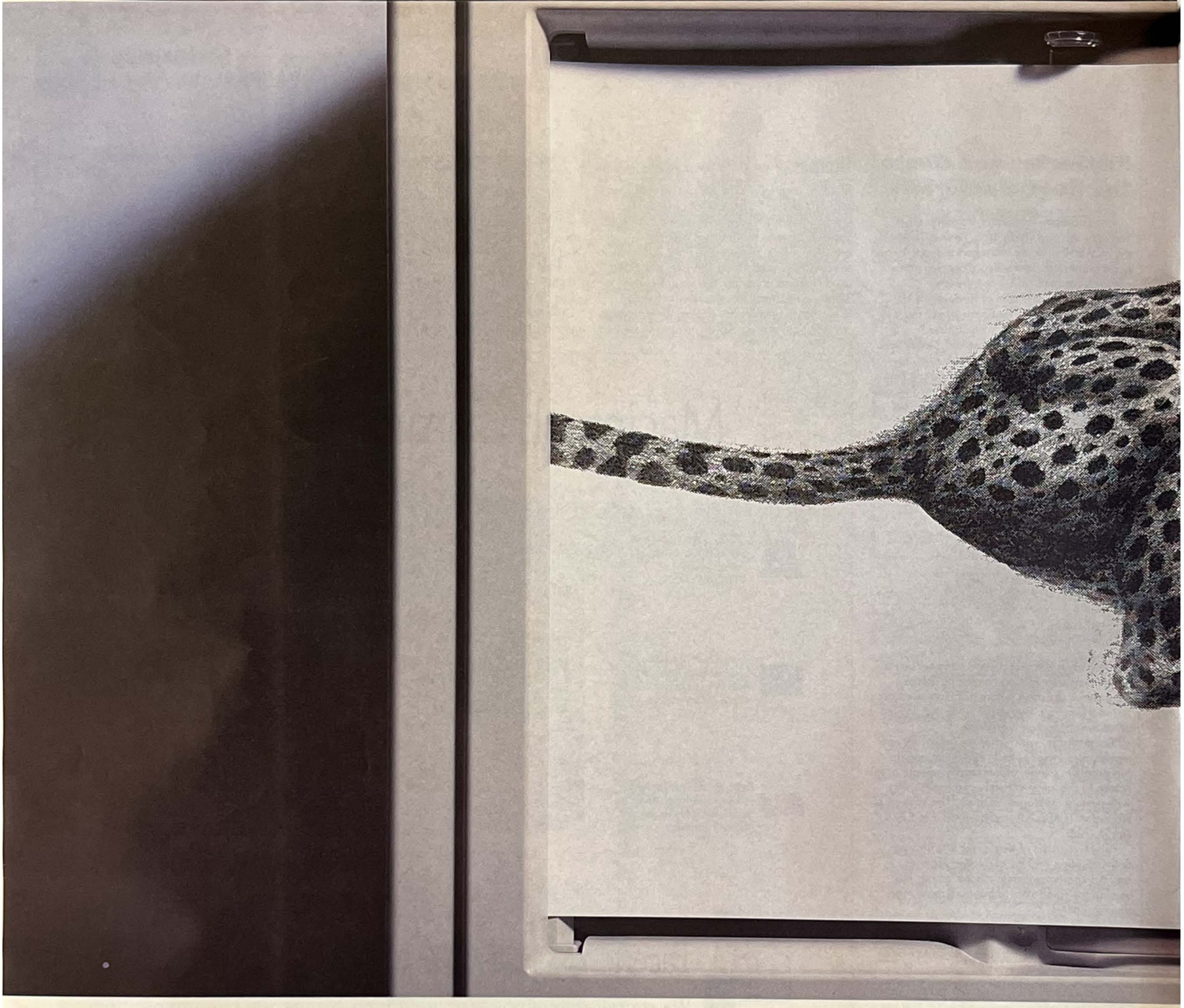

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RasterOps card carries video, sound

MediaTime also offers 24-bit graphics

By Neil McManus

Santa Clara, Calif. — RasterOps Corp. this October will release MediaTime, a NuBus card that combines 24-bit-color graphics, real-time video and CD-quality digital audio.

MediaTime, to be priced at about $2,700, brings 24-bit color to a 13-inch display at a resolution of 640 by 480 pixels at 72 dpi.

The RasterOps board also digitizes video from any composite or S-video source, capturing it in real-time to RAM or hard disk. It can switch automatically between sources and between NTSC (National Television System Committee), PAL (a European video standard) and SECAM (French) formats. The card delivers a video window scalable up to 640 by 480 pixels.

MediaTime works with RasterOps' optional QuickPak Video Compression daughterboard, due in October for less than $3,000, to record and compress digital video to hard disk with symmetrical decompression playback. QuickPak offers broadcast-quality compression up to 24-to-1 using the JPEG (Joint Photographic Experts Group) standard. Compression quality is variable up to 30 frames per second at 24 bits per pixel in a 640-by-480-pixel frame.

RasterOps' MediaTime also can record CD-quality sound to hard disk, where it can be played back and edited at 16-bit fidelity. It handles audio through a dedicated digital signal processor (DSP), freeing the Mac's CPU for other tasks.

MediaTime is compatible with Apple's QuickTime multimedia extensions, due this fall. It also works with RasterOps' $699 Video Expander encoder, $499 TV Tuner and $2,999 CorrectColor Calibrator.

RasterOps Corp. is at 2500 Walsh Ave., Santa Clara, Calif. 95051. Phone (408) 562-4200; fax (408) 562-4066. □

Scitex links Macs to scanner

By Steve Hannaford

Boston — The Color Connections 2 conference on color publishing, held here this month, gave some 150 publishers, printers and service bureau managers a first look at a Mac link to a high-end Scitex scanner and two new fiber-optic networks that promise to significantly speed up the transfer of graphics images.

Scitex America Corp. announced a Macintosh interface for its Smart Scanner PS, a high-quality CCD (charged-coupled device) scanner. The General Purpose Interface Bus (GPIB) interface will be available within 90 days, the company said.

The Smart Scanner has been in existence since 1985 and now has some 500 installations, mostly in high-end color trade shops, according to Scitex.

It handles reflective and transparent art up to 8 by 10 inches and can automatically color-correct the images.

The current Smart Scanner PS allows users to download to the Mac color-corrected separations in a number of desktop-compatible formats, including DCS (Desktop Color Separation), RGB (red, green, blue) and CMYK (cyan, magenta, yellow, black) TIFF. The company is providing a Mac-based scanner control and correction program that can override the

See Conference, Page 26

Virtus' new Vision features texture mapping, which can be seen in the Van Gogh hanging on the wall at right and in the grain of the desk. Objects can be controlled by Apple events through HyperTalk scripts.

Virtus' Vision puts users in the scene for interactive 3-D modeling

By Rochelle Garner

Cary, N.C. — Looking for a 3-D modeler that lets you walk through scenes with apparent ease and create batch animations in no time flat? Virtus Corp.'s upcoming Vision will let users create and render 3-D objects, as well as associate HyperTalk scripts with Vision objects, allowing them to function as front ends to background information.

Due to ship in October for $895, the product functions as a superset of Virtus' $395 WalkThrough modeler. Vision allows users to move in any direction through a scene, without having to define a path.

Vision also offers real-time texture mapping. Users can scan in or import textures from other applications, place textures on 3-D objects and walk around frames. According to the company, rendering can occur as fast

See Virtus, Page 26

VIDI delivers Presenter Pro

By Carolyn Said

Boston — "Digital clay" is what Visual Information Development Inc. calls Presenter Professional, its 3-D illustration package that shipped this month at Macworld Expo here.

The $3,600 modeling, rendering and animation program offers both novice and expert modes.

It features free-form, non-polygonal 3-D modeling, which VIDI said made images look more realistic and render faster than polygonal surfaces.

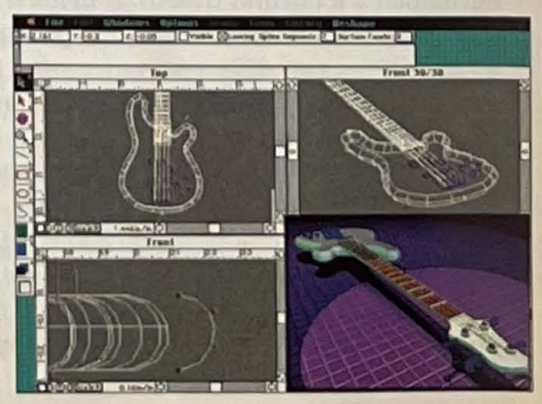
Editing is intuitive and easy, VIDI said. Users can push and pull corners, edges and even interiors of 3-D spline surfaces to "sculpt" them, just as they edit Bezier curves in 2-D drawing programs.

Rendering capabilities include four shading options: facet shading, smooth (Phong) shading, ray tracing and MacRenderMan. Presenter Professional includes a direct interface to Pixar's MacRenderMan ($695), which comes bundled with the program for a limited time.

Presenter Professional features "Loaf," a creation tool previously found only on workstations, according to VIDI. Loaf lets users create models using cross sections of any object. Other creation tools include path extrude, sweep and auto-surface.

The program does keyframe animation. Users can simultaneously move a camera and objects in a scene.

Visual Information Development Inc. is at 16309 Doublegrove St., La Puente, Calif. 91744. Phone (818) 918-8834; fax (818) 918-9935. □



Presenter Professional's rendering capabilities include facet shading, smooth shading and MacRenderMan support.

SCREEN TEST

Eye-catching graphics enliven insurance brochures

Van Nuys, Calif. — While insurance may not seem like a colorful subject for a promotional campaign, Will Sherwood drew on the graphical power of the Mac to create a pair of visually appealing brochures for Allianz Insurance Co. of Los Angeles.

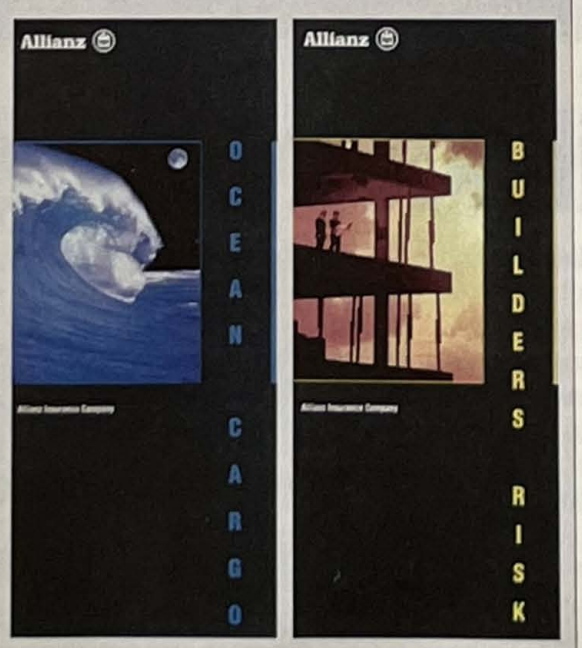
Sherwood, president and creative director of Sherwood Associates Inc., based here, scanned slides for the pamphlets at 75 dpi on a Howtek Scanmaster scanner for placement later.

As soon as the transparencies were approved, Sherwood sent them to the printer (The InkSpot Inc. of Ontario, Calif.) to get a head start on the high-resolution separations.

Next, he designed and produced color comps of the brochures using the Crosfield Lightspeed Color Layout System Version 2.0, which includes a Mitsubishi G650 color thermal printer, the Howtek Scanmaster, a 19-inch color SuperMac monitor, a Dataframe XP 150 hard drive and a Mac II with 8 Mbytes of RAM.

Although Sherwood Associates has subsequently switched to Version 2.5 of the Crosfield Lightspeed system, which supports Encapsulated PostScript graphics, Version 2.0 couldn't properly reproduce an EPS version of the Allianz logo Sherwood had created in Adobe Illustrator. Therefore, he rebuilt the documents in PageMaker to produce mechanicals that incorporated the EPS logo, bringing in the text and low-resolution scans.

The final color PageMaker files were sent to The InkSpot by modem. The printer imported 3,000-dpi scans of the slides as digital files into the Mac system and output the files to a Linotronic 330, which prints at 1,240 dpi.



Five thousand copies of each brochure were printed and shipped out to insurance agents. — By James Cury

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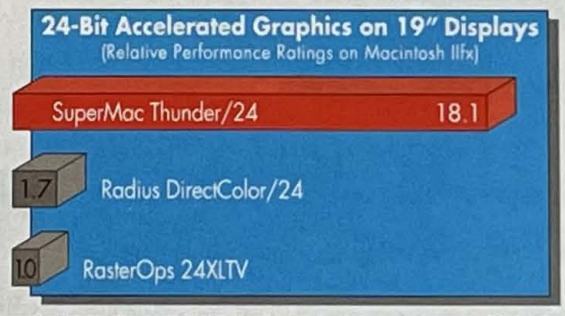
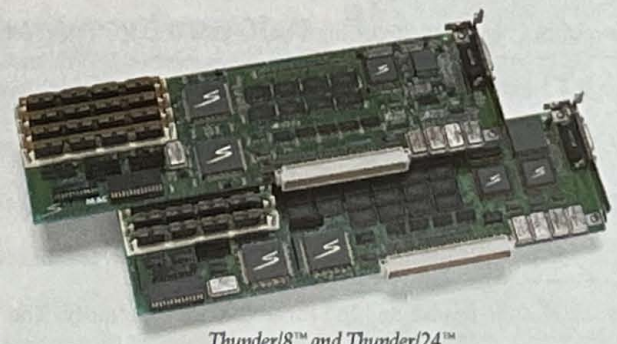


Radius card tested with optional accelerator, requiring an additional slot. Comparisons based on results as of July 1991, running Potrero™ Graphics Performance Benchmarks. All tests run on a Macintosh IIfx in identical configurations. Detailed performance results available upon request.



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Spectral DSP card speeds up ColorStudio 1.5 effects

By Raines Cohen

Santa Clara, Calif. — Spectral Innovations Corp. this month announced annexes that let Letraset's ColorStudio 1.5 image-editing program accelerate graphics effects with Spectral's MacDSP (digital signal processor) board.

The annexes, called Lightning Effects, will be bundled with the $1,295 MacDSP card starting this October. Users who don't own ColorStudio 1.5 can purchase it with the card for an additional $300. Additional effects and annexes will be made available as they are developed.

When a user applies filters or effects in ColorStudio, the program uses the DSP card's on-board AT&T DSP32C, running at 30 Mflops (millions of floating-point operations per second), to speed the operations.

For instance, resizing an image to arbitrary dimensions is 20 times faster with the card's help. In addition, several special-effects filters, such as the UnSharpen Mask, have been recoded for the board for maximum performance enhancement.

Spectral said this is the first generalized teaming of an image-processing package with a DSP card that actually downloads a library of image functions to the card's on-board memory, rather than just a single-function enhancement. Spectral already offers several plug-in modules for Adobe System Inc.'s Photoshop that use the DSP card for effects.

Spectral Innovations Corp. is at 4633 Old Ironsides Drive, Suite 450, Santa Clara, Calif. 95054. Phone (408) 727-1314; fax (408) 727-1423. □

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NEC

C&C Computers and Communications

Conference

From Page 24

scanner's defaults. A Photoshop plug-in will be supported as well.

The Smart Scanner PS with the Mac interface will sell for less than $100,000, Scitex said. The company said it has no plans to offer the Mac link to current owners of the scanner.

Both Leaf Systems Inc. and Augment Systems Inc. showed high-speed fiber-optic networks designed to overcome some of the Mac's limitations in transferring large, complex files, such as graphics images, over the network.

The proprietary systems, which consist of a NuBus board and file-transfer software, will rush files between Macs at about two to four times Ethernet speeds.

Leaf's $2,400 MacLeafNet and LeafLink software will be available in September. Augment's system is shipping now; it costs $3,500 per Mac.

Scitex America Corp. is at 8 Oak Park Drive, Bedford, Mass. 01730. Phone (617) 275-5150.

Leaf Systems Inc. is at 250 Turnpike Road, Southboro, Mass. 01772. Phone (508) 460-8300; fax (508) 460-6470.

Augment Systems Inc. is at 19 Crosby Drive, Bedford, Mass. 01730. Phone (617) 271-0230; fax (617) 275-4461. □

Virtus

From Page 24

one-eighth of a second on a Mac IIfx, and up to 1.5 seconds on a Mac LC.

"We had a choice of Gouraud shading or texture mapping when developing Vision, and decided that texture mapping gives a much bigger visual impact," said J. Booth Kalmbach, president of Virtus.

When used with System 7.0 and HyperCard 2.1, Vision also lets users trigger HyperTalk scripts through Apple events to create a range of front ends. Users could, for example, build an information system that models an executive's office, including a telephone, printer and folders on a desk. Clicking on one folder could activate a spreadsheet. Dragging an image of paperwork from the desk to the printer could trigger printing.

Other features of Vision include:

- **Import and export.** Users can import and export 2-D and 3-D images saved in DXF (Drawing Interchange Format) and PICT. Moving images can be exported as PICS.
- **Fast animation.** Batch animations can be created quickly. Depending on the complexity of the image, Vision can create two-minute animations in 10 to 30 minutes, the company said.
- **Metric and English units.**
- **Numerical input.** Users can define an object's dimensions by entering numbers, as well as by drawing.
- **Variable scale.** Renderings can be created in scales ranging from the molecular level up to cityscapes.

Virtus Corp. is at 117 Edinburgh S., Suite 204, Cary, N.C. 27511. Phone (919) 467-9700; fax (919) 460-4530. □

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AppleTalk Phase 1 and 2 support	■	■
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SNMP and atalkad support	■	■
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EDITORIAL

Getting a grip on the software pirates

An Apple executive recently stated that his company wants to get serious about the growing problem of Mac software piracy.

This new attitude couldn't come at a better time. According to The Hartsook Letter, a Mac market report published out of Alameda, Calif., if we assume that every Mac has at least one word processor on it, then in the first half of 1991 less than 37 percent of word processors installed on Macs were legally obtained (comparing CPU sales to word processing sales).

While some companies, including Microsoft Corp. and Aldus Corp., have written a home-use provision into their software licenses (see story, Page 18), illegal software copying among friends and co-workers continues to be a widespread problem.

The Software Publishers Association estimated losses attributed to Mac piracy exceeded $535 million in the United States in 1990, despite the group's efforts to prosecute software thieves.

Most illegal software copying is committed by "casual pirates" who rationalize, for example, that software is too expensive. Some people argue that lowering the cost of software would reduce a casual pirate's ability to rationalize the thefts. While there is some evidence that this is true, it's unlikely that all pirates will stop stealing just because developers offer them a good deal. Call it human nature, but as long as there is a way to steal, some people will do it.

So, in addition to making it more attractive for people to buy software, we must make software more difficult to steal. Serializing all software products so that two programs with the same serial number won't run on the same network would severely limit piracy at companies, where piracy is most prevalent.

In addition, we must educate those users who sincerely don't know copying software is illegal. They must understand that when they copy a program, they are stealing it.

But even with these efforts, there is no way to completely eliminate piracy until paying customers decide to stop it.

Every illegitimate copy of software at one point came from a legitimate source. If paying users stopped copying software for their friends, the pool of illegal software would dry up. Until then, the paying user is being made a fool by pirates, who rely on buyers to acquire programs. The result is legitimate users are paying a higher price for their honesty. □

2 years ago in MacWEEK

Aug. 22, 1989: Apple describes AppleScript, a scripting language for automating complex tasks among applications running System 7.0.

In retrospect: AppleScript is still on the horizon, but UserLand Software Inc.'s Frontier is due out this fall.

Letters

Just how important are Type 1 errors anyway?

Don Crabb did some serious Apple System 7.0-bashing in The Mac Manager (MacWEEK, Aug. 6).

Yes, the System 7.0 manual is evasive and void of any technical answers, but it is written for the computer newcomer. What good is informing the new user that a memory-management problem has occurred?

"Inside Macintosh, Volume VI" and similar sources are specialized tools for the technically inclined. Those just learning how to use HyperCard or a word processor will find the manual quite useful.

My experiences with the Apple Answerline have been positive. I've called many times, and the phone has never rung more than twice. The people handling the phones are cordial, eager to help and provide full explanations. In most cases the entire process takes three minutes. They have even called third-party developers to make inquiries on my behalf. This is very different from the situation Crabb described.

Perhaps it would be better for the column to concentrate on why so many products aren't System 7-savvy or compatible. Using the excuse that System 7.0 has just been released doesn't cut it. Developers have had the guidelines for a very long time.

Corey Sherman
Andersen Consulting
New York

Don Crabb replies: As an unabashed fan, it was not my intention to denigrate System 7.0. With the column, I hoped to make several points:

Type 1 bus errors happen more often in System 7.0 than before, especially with large or unruly applications. Type 1 errors shouldn't happen, but when they do users should be provided with some basic information about what they are, what they mean and what to do about them. This is a serious omission in an otherwise solid set of manuals. As for the more technical reference sources, I came up empty. The discussion in "Inside Macintosh" and the Macintosh Technical Notes is hardly informative and cogent.

I've also had some good experiences with the Apple Answerline, but my experiences with Type 1 error queries were just as I reported.

I agree that developers have dropped the ball with System 7.0, although not getting 7.0B4 until February 1991 didn't help matters. I am appalled at the sparse offerings of System 7-savvy applications.

System 7.0: It's here. It works. Get used to it

I am very puzzled and slightly annoyed by the constant whining about System 7.0 problems. I've heard computer-sales "professionals" advise customers not to upgrade because of "severe" and "serious" compatibility problems. I've read letter after letter in Mac-related publications complaining about System 7.0 compatibility problems. Where are people getting this absurd information and why are they spreading it?

I manage the Advanced Technology Group for a large financial institution. We have converted all Macs to System 7.0. We regularly use and test hundreds of applications and have experienced only two compatibility problems that could not be solved easily, and in both cases they were non-essential applications. We found nothing that prevented us from pursuing the very clear benefits of System 7.0.

I also have helped several friends upgrade their Macs to System 7.0. Sure, they had some outdated shareware and commercial applications, but nothing that couldn't be easily addressed. All in all, I've been directly or indirectly responsible for more than 150 successful upgrades, and invariably users love it.

I'm willing to bet that in most cases the problems that are so well-

GORDON STUDER

publicized are in reality with the carbon-based unit located just above the keyboard.

System 7.0 works, and it works well. It's compatible with most, if not all, of the major applications currently on the market, and once you get used to using it, you'll never want to go back to previous versions of the Mac operating system.

Marvin L. Price
La Verne, Calif.

Send letters to MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105. MCI 323-1203; fax (415) 243-3650. Include your name, address and phone number. Letters should not exceed 300 words. We reserve the right to edit for clarity and length.

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JEAN-LOUIS GASSÉE

Now that Microsoft can go around claiming to offer serious programming tools for the rest of us, where does that leave Apple?

Commentary

Microsoft does it again with Visual Basic

Accusing Microsoft of abusing its dominant position has become easy and fashionable. Other than repeated bland denigrations and transparently orchestrated PR campaigns destined to picture William H. Gates III as a benevolent polymath, the company and its fearless leader have done little to avoid such aspersions.

Once upon a time Bill Gates was labeled a whiz kid. He is now a billionaire and the leader of the largest and most successful software company in the world. Grounds enough for jealousy. Add to that the brains of a Borland's Philippe Kahn, the business acumen of a Ross Perot, almost as much nerve as a Steve Jobs, and the unassuming but deceptive exterior of a nerd and you have the stuff from which legends and Federal Trade Commission investigations are made.

But pointing to the ways Bill and his company exercise power is not enough to explain their enduring success. After all, Ashton-Tate used to be a dominant force in the PC software industry and no shrinking violet either. Now they are rescued, or finished if you prefer, by Philippe and merged into Borland.

Good products. For its continuing success, Microsoft also resorts to an old recipe: good products. The latest installment is Visual Basic, the product that is likely to do for Windows what HyperCard failed to do for the Mac: open the platform to legions of new programmers.

Not that HyperCard isn't an interesting product or doesn't have a loyal following of stack programmers with interesting work to their credit. But there is a big difference: With HyperCard, you program HyperCard stacks, not Mac applications; with Visual Basic, you program Windows applications.

Visual Basic is a derivative of Microsoft's well-known QuickBASIC. It is a terrific programming environment, not just a programming language. It allows users to create fully functional Windows applications, complete with Dynamic Data Exchange (DDE) connections to other applications and Dynamic Link Libraries (DLLs).

The language itself looks more like an interpreted Pascal than Applesoft BASIC (another Microsoft creation), but more important, it is a nice programming environment, not just an incremental compiler and editor. At each step of the design, the environment knows a lot about what can and can't be done and presents the allowable commands or attributes.

Yes, Microsoft occasionally has been lambasted as being tone-deaf, and for good reason. But the company seems to to have an ear for programming, in BASIC at least.

The downside? Visual Basic is slower than what you could write in Borland's Turbo C, if you could, and you probably won't use it to write the next Lotus Improv clone on a Windows system. Not a real problem in the world of cheap clones. Not a real shortcoming in the world of ad hoc, in-house applications for which Visual Basic is a godsend.

The only potentially painful descent into reality are the inherent difficulties in designing event-based, gesture-driven, iconic interactive applications. But now better tools such as Visual Basic let you concentrate more on the design.

Apple's quandary. Where does that leave Apple, now that Microsoft can go around claiming to offer serious programming tools for the rest of us?

Apple has several choices. One is to kiss and make up with Bill and drop the lawsuit so it can get prompt delivery of a version of Visual Basic for the Mac with source-level compatibility with the Windows version. The Mac would, at last, become compatible with Windows.

Another choice would be to exploit Apple's potential superiority in linking applications together via Apple events, in effect allowing designers of in-house applications to reuse existing software such as spreadsheets, word processors and databases. Visual Basic's implementation of such activities is less engaging than the rest of its capabilities.

Third-party developers could help, directly or through Claris. Serius Corp.'s latest development tools represent an interesting example of what could be done: It is even more object-oriented than Visual Basic.

With a little bit of luck, hard work, "studying" the competition, and working with creative and more mobile third parties, Visual Basic could end up being a good thing for the Mac. □

MacTOON

The Mac Manager

Examining Apple's superstore equation

Earlier this month I made the trek to Boston's Macworld Expo. Unlike past excursions to Boston, I found this show to be reasonably run, reasonably interesting and reasonably comfortable. One measure of the comfort was the number of Mac managers I spoke with who felt pretty safe within the Apple fold. No more living on the edge because they bought Macs. Some of these managers felt so safe, in fact, that they were talking about buying their Macs from computer superstores instead of from their local Apple dealer.

The CompUSA way. The story I heard from these managers was both refreshing and enlightening. Many have been toying with the idea of buying their next round of Macs (mostly IIsi and LC systems with Ethernet cards) from CompUSA Inc., the computer superstore chain formerly called Soft Warehouse Inc.

Apple signed these guys on in June to mass market the Classic, LC and IIsi, along with printers and other peripherals. Other Mac models, especially the much-ballyhooed notebooks, are supposed to make their CompUSA appearance this fall, too.

Managers said convenience is what makes the CompUSA buying alternative so attractive. Managers can literally shop the place as if it were a giant department store of computers. Almost every kind of personal computer can be found, along with all the peripherals set up and ready to test.

In addition, Mac managers told me they really like CompUSA's emphasis on volume sales, since it gives them plenty of time to play with the setup configurations and get some idea as to their needs, without a salesperson hovering over them. And when they finally decide on models and numbers, managers simply fax a corporate purchasing order to the store, which in turn will ship the order directly to them — just as if they had gone to their regular dealer.

Pricing also is competitive with Apple's now-extinct (except to a few companies) direct sales. Managers with some of the smaller companies I talked to said CompUSA's prices are even lower than their local full-service dealer. One manager gave me an earful about expendables, too, citing how much lower the cost of CompUSA's toner cartridges were.

What about service? The bugaboo that surfaced in my mind during these conversations was service. I've spent some time in the new CompUSA store in the Chicago suburbs, so I can see the Mac managers' fascination with this form of "office consumption," but I worry about service. Can a high-volume, low-overhead warehouse store provide the same kind of service as, say, a local MicroAge or Inacomp dealer?

The message I got from the Mac managers now enamored with CompUSA was that local dealer service — which I always thought was so important — has been wildly oversold.

To their way of thinking, local dealers have been slipping in providing setup, consulting and training services for the past couple of years anyway, as pressure from mail-order sales has undermined their bottom lines. Dealer service for some managers has slipped so much that many are providing their own in-house training and machine setup anyway.

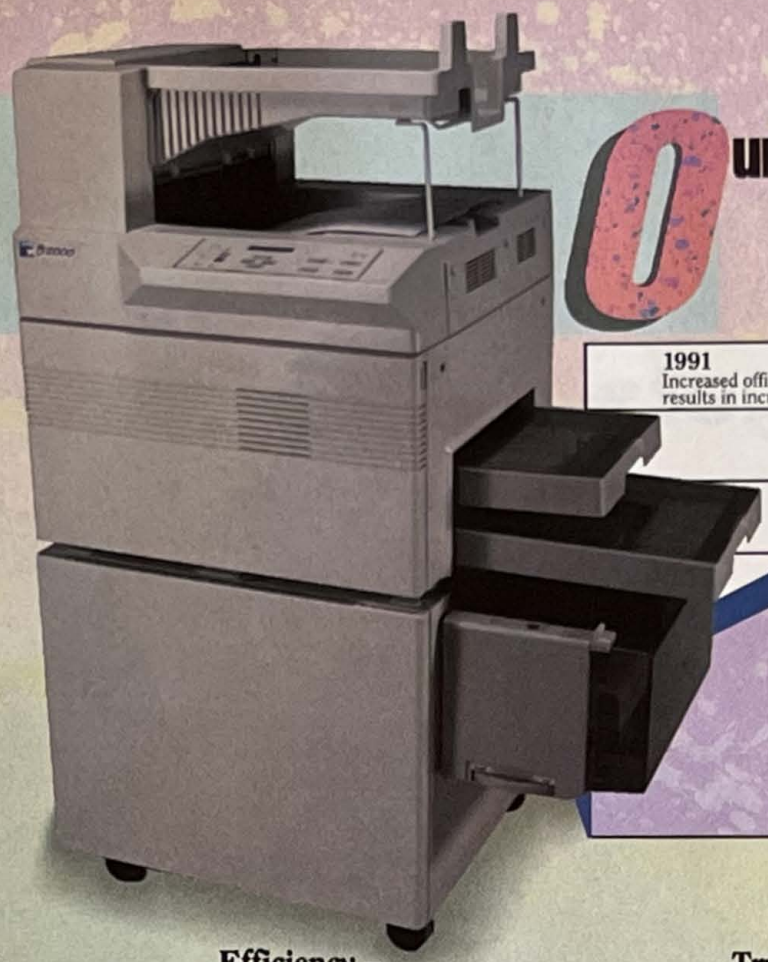
DON CRABB

So it's not like they'd be missing a lot by buying from CompUSA.

As one Mac manager for an insurance company told me, "Hell, Don, by now we know more about the Mac and how to tailor it to our needs than any of our dealers know."

Superstores for everyone? For some Mac managers, especially those who have been at this game for years, buying from a CompUSA kind of store probably makes sense. These folks know what they need and how much they want to spend. What they want is convenience at a good price.

But there is a whole other group of Mac managers that are no where near as self-sufficient. These people aren't old hands at the Mac computing game. Many of them are struggling to learn both the technical issues and how to manage their Mac staffers at the same time. For these Mac managers, the CompUSA way may be the wrong way. □



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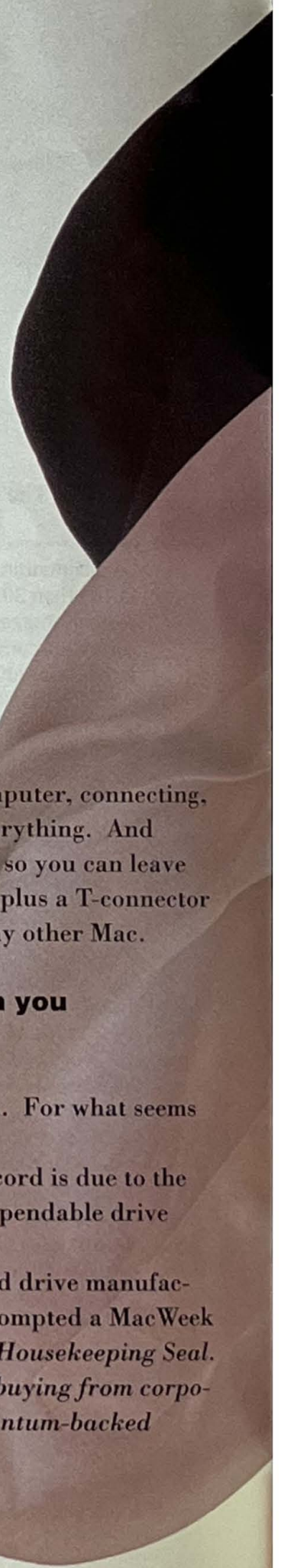
†Contact QMS for availability of network options.
*Patent pending

This just might be as portable as a 40MB drive ever gets.



Among the many interesting objects you've wedged into your pockets over the years, we can safely guess that a 40MB hard drive wasn't one of them.

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Reviews

- In Brief: JAG, Active Memory. See Page 36.
- Sidewinder. See Page 38.
- 4D Calc, 4D Write. See Page 38.

Address Express thinks small

Delivers envelopes, labels with ease

SCORE CARD
Address Express

MacWEEK

Overall value	●
Performance	●
Features	◉
Installation/configuration	●
Compatibility	●
Documentation/support	●
List price	$1,195

● Excellent ● Very good ● Good
◉ Average ○ Below average

ON BALANCE
Address Express
Tidemark Corp.

MacWEEK

The Address Express printer and software make printing labels, envelopes and postcards simple and somewhat automated. If used from within a word processor, the technique is straightforward and reliable. However, support of other types of programs is less smooth. Predefined layouts must be used to format fonts and styles. This can often add a step to simple tasks, such as italicizing a line.

By Neil Shapiro

In today's world of beautifully formatted common correspondence, there are still too many ugly-duckling envelopes. Tidemark Corp.'s new Address Express printer is dedicated to making envelopes, postcards and labels as presentable and easy to produce as the rest of your computer-printed documents.

The thermal inkjet printer's minimum-size form is 3 by 5 inches (the maximum is 6.3 by 10.4 inches), but this limitation accommodates the usual sorts of envelopes, labels and postcards that businesses use. The printout quality was similar to that of other inkjet printers we've used.

A step removed. Although Address Express does not hang directly off the network, all of the Macintoshes on AppleTalk can access it. You connect it to one Mac via the serial port, and other Macs on the network connect to the printer through it; the host Macintosh acts as a kind of print server. The host Mac must be running either System 6's MultiFinder or System 7.0, because Address Express' software must work in the background to handle print requests from other machines. All Macs printing to Address Express must have at least 2 Mbytes of RAM each.

(IBM PCs and compatibles can use Address Express on a network via a serial connection to a dedicated server and a terminate and stay resident program on client PCs.)

Setup of the printer is simple. All it takes is a quick cable connection to the Mac's serial port (usually the modem port since the other port is often used by a regular printer or network) and one pass each of the installation programs. The main installer copies the Address Express Online extension, the Address Express Editor program, an associated help file and some sample layouts to your hard disk. There is a separate installer for network operation, and users not running System 7.0 will want to run the TrueType installer to get outline fonts.

Auto-addressing. The Address Express software can be set to find an address within your document and to automatically enter it into the queue to be printed on an envelope or label separately or at the same time that the document prints. If, for example, you are typing a business letter and choose Print, Address Express will scan your document and present you with a preview box of any addresses it finds, formatted according to your currently selected template. While your letter prints on your main printer, Address Express' preview window allows you to edit the text of addresses found and print them on the Address Express printer.

The algorithm that automatically finds addresses seems reliable. The manual explains the method in great detail and gives suggestions for making it work even better.

If your word processor supports programmable mail merge, then the Address Express' find-the-address routine is capable of following right along with the merge print. However, your word processor's merge language must support End and End If control structures. The manual gives a complete script for a Microsoft Word mail merge.

While the manual claims compatibility with spreadsheets, the reality is that you must export your spreadsheet data into your word processor before printing with Address Express. While the functions that Address Express performs in conjunction with word processors are helpful, a generic printer driver for all applications would be a better strategy.

Envelope, please. Address Express' software adds a new menu with an envelope icon to the menu bar. (The default is for the menu to appear in the Finder and in all applications, but the extension can be customized so it appears only in selected programs.) The Address Express menu holds the commands that print selected text, retrieve the last printed address for editing, choose a new printing template and check the status of the printer.

The choice of a printing template is critical, because when you print an address, you cannot change the text formatting or positioning except by switching to another existing template. If you want, for example, to make the first line of an address italic instead of bold, you must switch to a different layout template that has the first line in italic. Templates can be designed and altered only in the Address Express Editor program. This division of formatting control is limiting and unMac-like.

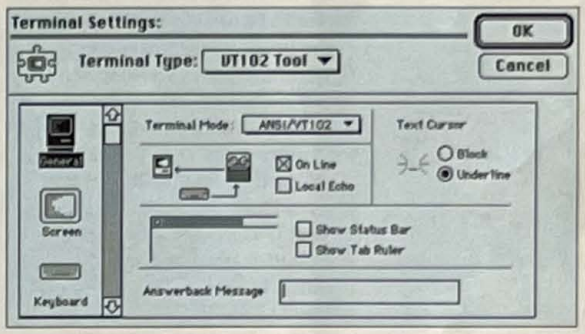
On the other hand, the Address Express Editor does arrive with 10 preprogrammed templates. And, once within the editor, all the usual text-formatting features become available. When designing new templates in the editor, you first call up an existing envelope or label shape, or define a new one. You drag the shape to the size you like and then drag data fields onto it. Fields include return address, main address, one-line message text, POSTNET and FIM bar codes, and graphics (imported via the Clipboard).

Different lines in each data field may be formatted with different fonts, sizes and styles, but all words in a line must be formatted the same way. Again, we believe that this styling restriction is too limiting.

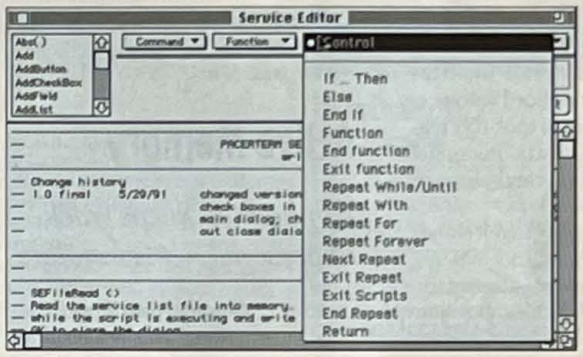
Surprisingly, the Address Express Editor has no printing facility of its own. Once a template looks good, it must be installed in the Address Express menu. Then you must select the template from the menu, enter an address and print out your test copy.

Conclusions. The Address Express printer tries to meld custom software with unique hardware

See Address, next page



PacerTerm uses the standard Communications Toolbox features and interface. Similar controls for connections and file transfer are used to create a basic settings file.



PacerTerm's scripting language is HyperTalk, but the script editor isn't HyperCard's: It allows you to type scripts or use command, function, control, terminal and dialog menus.

PacerTerm speaks in HyperTalk, dialogs to VAX, Unix host systems

By Jonathan A. Oski

Pacer Software Inc.'s PacerTerm is the first new commercial telecommunications program to come along in quite a while. It has capabilities that make it attractive as a general-purpose communications program and as a tool for creating custom interfaces to host computer systems. PacerTerm is the first product to access all of the utility of the Macintosh Communications Toolbox in addition to providing scripting and interface-customization facilities.

Many software vendors have adopted the Comm Toolbox as a common platform for communications applications, because it offers multiple, simultaneous sessions and an extensible framework. Starting with the basic terminal, file transfer and connection components that the Comm Toolbox provides, vendors can focus on building sophisticated functions. The Comm Toolbox is built into System 7.0; users of System 6 will have to install it with the disks Pacer provides.

Building with blocks. PacerTerm is hardly a plug-and-play application. While the sample settings files are helpful, knowledge of communications and substantial effort are required to achieve the most basic communications utility.

To create a new settings file, you must configure the Comm Toolbox extensions ("tools") via a dialog box reminiscent of System 6's Control Panel desk accessory. First, you set up terminal emulation (TTY, VT102 or VT320), screen size and

See Pacer, next page

SCORE CARD
PacerTerm

MacWEEK

Overall value	●
Performance	◉
Features	●
Ease of use	◉
Documentation/support	●
List price	$249

● Excellent ● Very good ● Good
◉ Average ○ Below average

ON BALANCE
PacerTerm
Pacer Software Inc.

MacWEEK

Although its price and features peg PacerTerm as a general-purpose telecommunications program, it is best used for VAX and Unix connections. Based on the Communications Toolbox and HyperTalk scripting language, PacerTerm also offers programmable dialog boxes, on-screen palettes and keyboard remapping. The first release is flawed, but it is inexpensive compared with other front-end systems.

IN BRIEF

- JAG
- Active Memory

JAG

No more 'jaggies' with Ray Dream's anti-aliaser

When Ray Dream Inc. released its 3-D modeling program, Ray Dream Designer, it included an anti-alias feature that removed the "jaggies" from any PICT file. This obviously struck a chord with users because Ray Dream took this feature, added some extra functionality and released it as a stand-alone program called JAG.

JAG (the company said it stands for "jaggies are gone") is a $99.95 utility that applies anti-aliasing to color PICT or PICS files. It requires a minimum of 2 Mbytes of memory and System 6.0.5 or greater with 32-bit QuickDraw.

In JAG's document window, you can zoom in and out to view the image, and step through or play it if the document is a PICS file. There are three anti-aliasing parameters that you can adjust.

- **Anti-alias Thin Lines** (when off) causes the program to ignore lines that are just one pixel wide, since anti-aliasing can make small text characters hard to read.
- **Remove Lone Points** deletes any single pixel that is completely surrounded by another color. This is useful for anomalies that sometimes appear in images rendered by 3-D modeling programs.
- **Anti-aliasing Threshold** defines the minimum difference in brightness between two pixels before anti-aliasing will occur. While this feature is accompanied by a warning against changing it, we found that adjusting the threshold often improves the results. The manual suggests that increasing this value will result in fewer parts of the illustration being anti-aliased, but we found the reverse to be true.

When saving a document, you have the option to change its color depth. A dithering option is provided for saving 32-bit images in eight bits, and an NTSC (National Television System Committee) Colors option filters out colors beyond the limits of the NTSC standard. Using JAG's batch facility, several files can be added to a queue and processed in the background. In this mode, all documents will be saved with the same parameters as the last file saved manually, and each file gets "AA" appended to its name.

By adjusting JAG's parameters, we produced acceptable results with several different images. In the past, we tried for these effects with the Blur or Smooth filters in Adobe Systems Inc.'s Photoshop and Letraset's ColorStudio. JAG does a much better job because it works primarily on the edges and doesn't mute the whole image. We would prefer to be able to select an area of the image to be anti-aliased rather than always working on the whole image. We'd also like to have JAG available as a plug-in filter for programs such as Photoshop and ColorStudio. Owners of Ray Dream Designer might consider buying JAG as well — it does an even better job than the built-in function in Designer.

Ray Dream Inc. is at 1804 N. Shoreline Blvd., Mountain View, Calif. 94043. Phone (415) 960-0765; fax (415) 960-1198. — *By Michael Murie*

Active Memory

Application keeps track of personal net reminders

Active Memory from Translatum International Inc. is a product that you can use to manage personal reminders, as well as send messages to other Active Memory users on a network. It consists of a desk accessory and a start-up extension.

Active Memory allows you to set up reminders for yourself or send them to others. When a reminder comes due or a network user sends a message to you, your Macintosh beeps (triggered by the Active Memory extension — you don't need to have the DA open), and a message window appears that lets you open the DA.

The Active Memory DA is well-designed; nearly everything is configurable. For example, you can add new types of memos, such as meetings, to the pop-up menu for that column. The time column also is very flexible, making it easy to set up repeating alarms and add those into the pop-up menu for that column. Unfortunately, it's not always clear which columns contain pop-up menus and which don't. Translatum said it would fix this interface quirk in the next version.

Another nice feature is the Info column, which can show one short line of text; when you type text that exceeds the limits of display in this column, a floating text window automatically appears to display the extra text. You also can filter the display of reminders in a number of ways, making it easy to find things in busy schedules.

Active Memory's Calendar window also is well-designed. This window shows the current month and includes buttons that let you see other months. A pop-up menu lets you specify which country you are in, and the holidays shown on the calendar are adjusted for that country. Considering that the program was developed in France and distributed in the United States, this isn't surprising, but it is a very nice feature.

All in all, we're happy with Active Memory. Network users and those with busy schedules should find it handy. An impressive number of features were included in a relatively simple interface. While it probably isn't as useful as ON Technology Inc.'s Meeting Maker for those in network situations, it should find a place on the Apple menus of many users.

Active Memory is available for $149.95 for a single user, $449.95 for five users and $899.95 for 10 users. Site licenses are available.

Translatum International Inc. is at 2501 Parker Lane, Suite A, Austin, Texas 78741. Phone (512) 443-8932; fax (512) 444-0691. — *By Steve Michel*

Address

From previous page

to answer the needs of businesses for envelopes and label printing. It's a great idea, but the real-life use of Address Express isn't as smooth as it looks. The inability to print from within the Address Express Editor program, the limitations of using it with programs other than word processors, and the hassle of having to predefine and pre-install layouts are all rough edges. And the price may seem steep for such a special-purpose device.

But the printer handily supplies an annoying missing piece in business correspondence, and it does so reliably and with an easy-to-learn software interface. It is (crudely) networkable, and we think it will prove more than welcome in many office environments.

Tidemark Corp. is at 39899 Balentine Drive, Suite 320, Newark, Calif. 94560-5363. Phone (415) 490-5050; fax (415) 490-4047. □

SYSTEM 7 COMPATIBILITY

Address Express	
Balloon help	No
TrueType	Yes
Publish and subscribe	No
Apple events*	No
32-bit addressing**	No

*According to Tidemark, the Address Express extension supports its own Apple events; however, no other application uses it

**According to vendor

Pacer

From previous page

keyboard characteristics. Next, you select the type of connection and appropriate parameters. PacerTerm supports Apple-standard tools for dial-up modems, direct serial links and AppleTalk networks. Pacer also provides tools for Telnet; LAT (Local-Area Transport); TCP/IP; and the company's own VAX-based service, PacerCT.

Users of VMS and Unix systems with network connections will make use of LAT, PacerCT and PacerTCP support, while those with more-typical telecommunications requirements will stick with the Apple Modem Tool, a generic interface for Hayes-compatible modems.

The final step is to select a file transfer type from PacerTerm's limited list of protocols. The program supports text, Xmodem, Super Kermit (with sliding windows) and FTP (File Transfer Protocol) transfers, as well as the proprietary PacerFT protocol. The company plans to have a Zmodem tool available this year. Protocol tools are simply system extensions, so new ones can be added at will.

Smooth scripting. PacerTerm's scripting language is the means by which the full power of PacerTerm is realized; PacerScript is essentially HyperTalk with communications-related additions. Although it lacks references to objects, such as cards, that are foreign to PacerTerm's interface, it is remarkably full-featured and accessible. PacerScript can be extended using HyperCard-compatible external commands (XCMDs) and external functions (XFCNs).

SYSTEM 7 COMPATIBILITY

PacerTerm	
Balloon help	No
TrueType	No
Publish and subscribe	No
Apple events	Yes
32-bit addressing*	Yes

*According to vendor

A "watch me" mode records your actions into an editable script for a fast start on script creation. The script editor offers many features we'd like to see in HyperCard's own script editor. Script commands can be typed in or selected from lists; any command or function, as well as any control, terminal or dialog procedure, can be accessed via a scrolling list or pop-up menu. The tracing debugger is useful, but it is annoyingly sluggish when executing long or complex scripts. Indeed, execution of all PacerTerm scripts is leisurely, even on 68030-based Macs.

Customization. PacerScript can be used to create custom dialog boxes, a feature critical to creating well-designed front-end interfaces. Significantly, these dialog boxes can be summoned by commands sent from the host computer. This is a powerful feature, but since dialog boxes are accessible only via PacerScript commands, creating them can be a time-consuming process.

Without resorting to scripting, you can control a floating palette of 20 buttons, called SoftKeys. Any button can be set to send out specified text, execute a script or call up an alternate palette. What you decide to do with the SoftKeys will depend largely on the host and the functions you perform regularly. Command keys can be remapped to offer keyboard equivalents to the SoftKeys, so both keyboard- and mouse-oriented users are accommodated.

While similar flexibility can be achieved by pairing general-purpose communications programs, such as The Freesoft Company's White Knight or Software Ventures Corp.'s MicroPhone II, with CE Software Inc.'s QuicKeys, the capability to easily mix and match multiple SoftKey and key-mapping definitions with any terminal settings file would be difficult to duplicate.

Despite its innovative and powerful features, PacerTerm is in some ways an unfinished product. The release notes, which include a list of known bugs in addition to the usual last-minute changes, rival one of the three manuals in length. The manuals that make up the remainder of the documentation are well-written, although the Communications Tools Guide would benefit from an index.

We couldn't duplicate all the bugs reported in the release notes, but we did encounter numerous anomalies that we attribute to bad memory management. For example, we received warnings of low memory and were unable to copy even small selections to the Clipboard regardless of how much memory PacerTerm had available.

Users of other telecommunications programs may be frustrated when trying to control their modems more directly than PacerTerm allows. Also, each settings document can contain only one phone number, so you must create separate settings files even for services with similar interfaces and transfer protocols. Finally, the terminal scroll-back buffer is fixed at a small size, so you're likely to lose the record of your on-line session unless you capture it to a text file.

Conclusions. PacerTerm shows substantial potential, but the absence of some components and the instability of some modules make us hesitant to recommend the program in its debut incarnation.

The extensible, multisession Comm Toolbox capabilities, along with the familiarity of HyperTalk-based scripting, are powerful draws, but the product's bugginess and some design limits hurt it. Although it's priced competitively compared with other telecommunications programs, PacerTerm is not ready to compete in that market.

For sites with Mac-to-VAX or Mac-to-Unix networks, however, PacerTerm provides flexibility in creating customized interfaces to host applications at a low price. PacerTerm also can be controlled from the host, which adds another opportunity for embellishing terminal-based applications. In this market, PacerTerm is easier to use and far less expensive than other options. For these users, we judge it a good value.

Pacer Software Inc. is at 7911 Herschel Ave., Suite 402, La Jolla, Calif. 92037. Phone (619) 454-0565; fax (619) 454-6267. □

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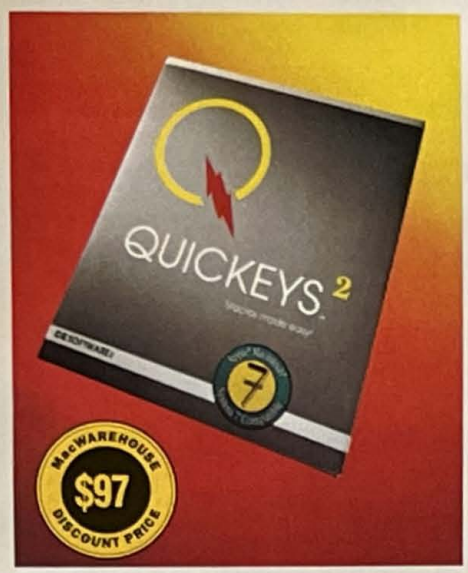


QuicKeys 2

(CE Software) Facilitates data being sent between applications, applications being launched, commands being executed, calculations made, and data returned to the user all without leaving the user's current working documents. Its 32-bit clean, and its Apple Events Extensions and balloon help make it a System 7 Savvy product. Put macros into a menu so they work like a part of the application. QuickTimer activates macros at pre-set times and dates. With QuicKeys extensions you can write your own functions, or import specially written extensions for your favorite applications. The leading product in macro technology. ***FaxFACTS 6529***

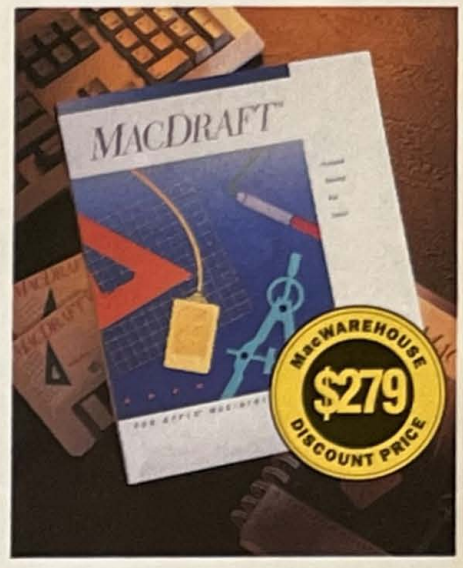
Dynodex 2.0 & DynoPage 1.0

(Portfolio Systems) Dynodex 2.0 –The Instant Address Book 2.0 bridges the gap between on-screen and printed listings. The complete electronic address file prints double-sided address pages, labels, rotary cards and envelopes. Stores names and addresses with up to four phone numbers for each entry and imports and exports text to most other applications. ***FaxFACTS 1510***

DynoPage 1.0– Print any file to double-sided page of any size. Automatically prints spreadsheets, project lists, sales plans, pie charts. Also prints double-sided pages or thumbnail reductions of any document. ***FaxFACTS 2529***

FileGuard 2.7

(ASD) "It's Sleek, Fast, and safe. I highly recommend it." MacUser April 1991. Protect your Hard Drives and Partitions from unauthorized access (including security bypass with a system diskette), copying and erasure; Applications and File/Folders (including system folder) from unauthorized access, deletion, and /or illegal copying; Desktop (including system folder) from alterations by unauthorized user; Keep an eye on System Usage with the system users log which continuously tracks user/group activity. System 7 compatible. ***FaxFACTS 6806***



MacDraft 2.1

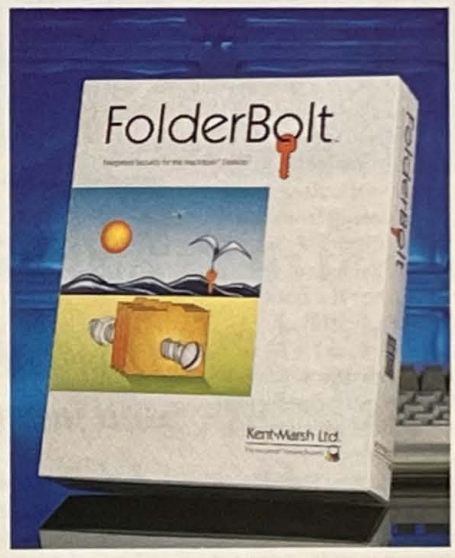
(Innovative Data) Provides the tools you need to create accurate drawings on your Mac. It supports PostScript output, has a moveable geometric drawing tool palette, multiple layers (limited only by available memory), on-line symbol libraries, 44 different scales, custom line styles, dimension lines, Bezier and spline curves, automatic area calculation, and smoothing of freehand shapes. MacDraft supports 32-bit QuickDraw and custom fill patterns in both black and white and color. Reads TIFF and MacDraw II files. ***FaxFACTS 4267***

Hayes Personal Modem 2400 Plus with Smartcom

(Hayes) Provides you with everything you need to go on-line. This 2400 baud modem has a builtin call-monitoring speaker and two LEDs, plus both phone and computer cables. Included in the package is the Smartcom terminal software to make using your modem simple and convenient. It fully supports the Mac interface. It also emulates popular terminals, such as TTY and VT54/102, to make mainframe and mini access easy. File transfer protocols include XModem, YModem, and MacBinary. Smartcom even allows you to automate log-ons. ***FaxFACTS 5100***

PowerCache

(DayStar Digital) Introducing...PowerCache for the Mac II, IIx, IIcx, IIci, IIse, SE/30 & LC. Once again, DayStar leads the industry by delivering incredible power for almost every Mac. Introducing the even faster 25, 40 & 50 MHz PowerCaches. These turbocharged cache cards will deliver up to triple the performance of any function from graphics to spreadsheets. Optional math chip is also available. Installation is simple...and its 100% compatible with all standard software. Call for additional pricing. 30 Day money-back guarantee. ***FaxFACTS 4904***



FolderBolt

(Kent Marsh) "If you work in a shared environment, but don't want to share everything on your Macintosh, you may want a copy of Folder Bolt...FolderBolt is a welcome addition to the Mac Security Arsenal." MacWeek June 25, 1991. Create completely locked folders, read-only folders, or password-protected drop box folders. No one without the password can open, duplicate, delete, or move them. FolderBolt can unlock all your folders at once and re-lock them on shutdown. Also generates a complete audit trail of all activities. ***FaxFACTS 6549***

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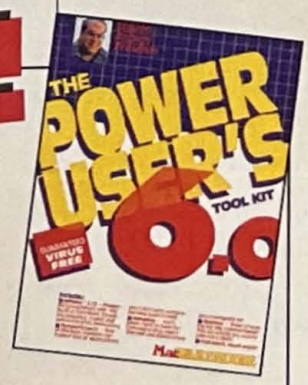

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Sidewinder server rattles AppleShare

PC clone betters price, performance

By Jonathan A. Oski

When configuring an AppleShare file server, most managers specify the fastest possible server to maximize overall network performance. The Mac IIfx and IIci offer adequate performance but at a premium price, while the SE/30 and IIsi offer good performance at lower prices. So far there's been very little price competition on server hardware in the Mac world.

But now ShirtPocket Software has introduced the EasyServer, a line of products using inexpensive Intel-based hardware to create cost-effective server options that are compatible with AFP (AppleTalk Filing Protocol) used by AppleShare.

Several configurations are available, starting with an $800 kit that you add to an existing IBM PC clone, which results in a LocalTalk server that is capable of reading Mac SCSI hard disks, all the way up to the pre-configured models.

Hardware to go. We reviewed the least-expensive configuration, the Sidewinder, which is based on a 16-MHz Intel 80286 with 1 Mbyte of RAM, a DayStar Digital LocalTalk adapter, a Western Digital SCSI interface card, a Z80 I/O processor and a 200-watt power supply. Our unit included an AMI ROM BIOS. Since a monitor interface, monitor and keyboard are not needed to run the server software, these items are not included. The standard six IBM PC/XT-style slots are modified by an unusual adapter that accommodates three horizontally mounted ISA-bus adapters.

We weren't impressed with the quality of the materials and construction of the Sidewinder. The review unit arrived with several loose screws. The hardware does not match the quality standards established by other supplies of low-cost clones such as Dell Computer Corp. and Northgate Computer Corp.

EasyServers are built to accept external SCSI disk drives, including CD-ROMs. Installation is quick and simple, consisting of attaching a Mac-formatted SCSI hard disk and booting from the supplied floppy disk. The Sidewinder uses audio clues at start-up to indicate whether the boot sequence was successful.

Easy administration. Server administration is performed entirely from a networked Macintosh, a feature network administrators are sure to appreciate. The EasyServer Administrator application allows you to create and manipulate user and group names in a manner similar to that used by AppleShare's Admin. We found EasyServer's administration interface to be more intuitive and accessible than AppleShare's.

EasyServer Administrator provides considerably more functionality than that found in other AFP servers. For instance, you can quickly publish or unpublish any of the volumes attached to the server, you can update the clock on the server based on your local clock, you can force an individual user to log off the server, and you can view server logs and examine network statistics. The server can be shut down and restarted from the remote EasyServer Administrator. The only server function that isn't controlled remotely is powering down the hardware.

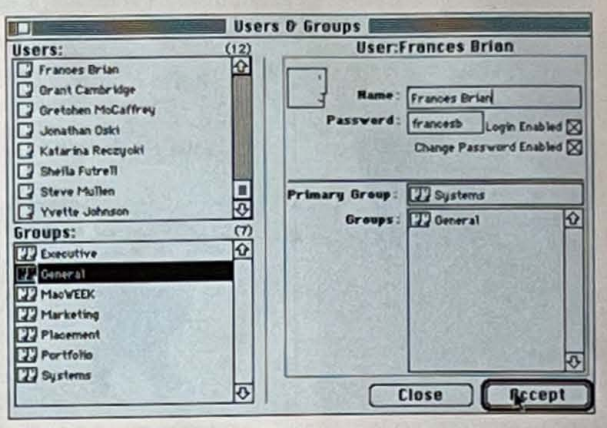
Performance. We compared the performance of the EasyServer to that of AppleShare on a Mac SE/30 and Miramar Systems Inc.'s MacLAN Connect, another product that uses IBM PC and compatible hardware as an AFP server.

The MacLAN Connect server was run on an IBM PS/2 Model 70, which is based on a 16-MHz Intel 80386 with 4 Mbytes of RAM. Our testing suite consisted of network-database access and various disk benchmarks, including DiskTimer II and Disk Basher 1.1. The Sidewinder EasyServer outperformed the SE/30 AppleShare server by an average of 33 percent and the MacLAN Connect server by 46 percent.

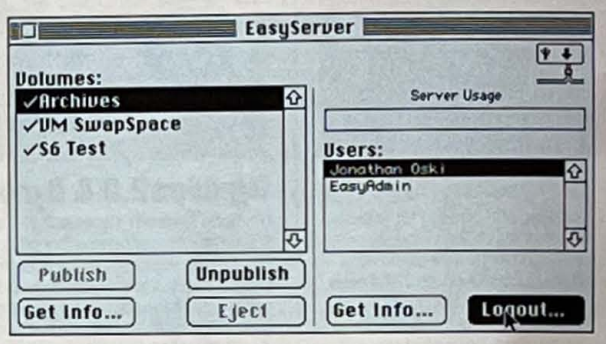
The higher-performance EasyServer models (see chart, Page 40), based on better CPUs and Ethernet, should be even faster. The company claims that its 33-MHz 80386-based Viper will equal or surpass the performance of a Mac IIfx running AppleShare.

Conclusions. The Sidewinder EasyServer costs less than half the price of a comparably equipped Mac SE/30. The unresolved issue is the long-term reliability of the EasyServer hardware and software. We have no doubt that an SE/30 is constructed of higher-grade components, and though Apple certainly isn't leading the

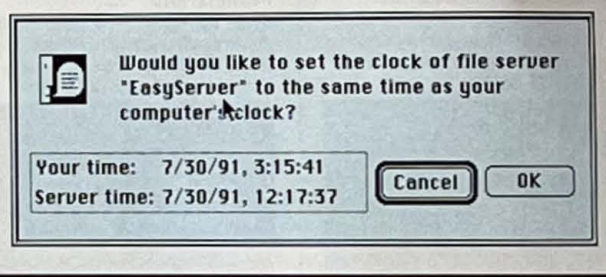
See EasyServer, Page 40



The EasyServer interface is similar enough to that of AppleShare to be accessible. It is clear and concise, and it avoids the screen clutter that can become a problem managing AppleShare users and groups.



The EasyServer Administrator application allows you to force individual users to log off of the server if it needs to be brought down for maintenance.


Would you like to set the clock of file server "EasyServer" to the same time as your computer's clock?
Your time: 7/30/91, 3:15:41
Server time: 7/30/91, 12:17:37
Cancel
OK

With the EasyServer Administrator, which runs on a networked Mac, you can update the clock on the server based on your local clock.

SCORE CARD

Sidewinder EasyServer

Overall value	●
Performance	●
Features	●
Installation/configuration	●
Compatibility	●
Documentation/support	●
List price	$1,800

● Excellent ● Very good ● Good
◉ Average ○ Below average

ON BALANCE

Sidewinder EasyServer
ShirtPocket Software

Sidewinder is the least expensive member of the EasyServer series of AFP-compatible file servers based on IBM PC-clone hardware. Installation, which includes the addition of a user-supplied SCSI hard disk, is quick and easy. The unit reviewed appeared to be constructed of low-quality materials but performed without incident. The EasyServer administration software and price/performance are better than AppleShare running on a Mac.

Add-ons calculate, write in 4D database fields

Developer modules add functionality

By Vernon Keenan

ACIUS Inc. sells several add-on modules that extend its popular relational database, 4th Dimension. The company recently released the most interesting of these: 4D Calc adds spreadsheet formatting and calculation capabilities to 4D databases, and 4D Write provides word processorlike text-handling features. These modules must be built into 4D databases and are aimed at developers creating integrated database environments. Both packages also come bundled with 2D Graph, a simple business graphics module, which we did not review.

Playing the fields. These modules are installed easily into your database as special fields in 4th Dimension's data-entry layout. The user sees fields containing miniature scroll and menu bars. The fields also can be expanded to full-size windows, which make better working environments. The data created when using 4D Calc or 4D Write can be stored in database fields or written out to separate disk files. The default setup of 4D Calc and 4D Write fields can be defined as part of your layout.

4D Calc can perform calculations on data in the database and display the results, or you can use the spreadsheet format to store large arrays of numbers within a single field. Through its special Fill With Field command, data from a related file can be inserted into the spreadsheet, and the Field Summary command can perform subtotal calculations. 4D Calc also can summarize related files in a spreadsheet format.

4D Write can produce form letters based on database content, or it may simply be used to store formatted text in a field.

With both of these modules

See 4D add-ons, Page 41

SCORE CARD

4D Calc and 4D Write

Categories	4D Calc	4D Write
Overall value	●	●
Performance	●	●
Features	●	●
Ease of use	◉	◉
Documentation/support	●	●
List price	$295*	$295*

● Excellent ● Very good ● Good
◉ Average ○ Below average

Single copy; 10-pack, $1,000 ($800 for developers)

ON BALANCE

4D Calc and 4D Write
ACIUS Inc.

These modules can be built into 4th Dimension databases to add spreadsheet and word processing functions. They are easy to insert, programmable and can manipulate other data in your databases or separate files. Each is remarkably powerful for an add-on product, and 4D Calc offers especially desirable new capabilities to database developers. While we had some problems with 4D Calc running in 32-bit-addressing mode, we found the modules to be good values.

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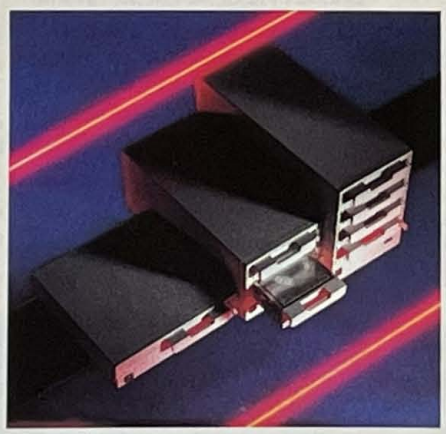

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PrePrint 1.5 strives for separation

By Steve Hannaford

In the realm of desktop publishing programs, Aldus Corp.'s PageMaker was once king. But since color publishing has become a critical factor in the market, more and more sites have switched to Quark Inc.'s QuarkXPress, with its sophisticated tools for importing and separating color images.

Last summer, in an attempt to hold onto the allegiance of high-end users, Aldus released Aldus PrePrint, a utility for color separating PageMaker 4.0 documents.

While PrePrint 1.0 made decent color separations, the program was slammed, especially by service bureau operators, who found it to be slow, awkward and incapable of handling the growing number of files using the DCS (Desktop Color Separation) format generated by programs such as Adobe Systems Inc.'s Photoshop. Many of PrePrint's users found the program unsuitable for high productivity.

In response to the complaints, Aldus recently released PrePrint 1.5, a major enhancement over the first version. Not only has the new version made it possible, even sensible, to separate color pages created in PageMaker 4.01, it is also capable of separating Adobe Illustrator 3.0 and Aldus FreeHand 3.0 files as well. While not without its flaws, this new version of PrePrint should help re-establish PageMaker as a credible source for color publishing.

Out with the old. The biggest problem with the old version was the impossibility of printing precise page ranges or plates. If you had, for example, a document with five pages, PrePrint would pop out all the magenta plates, followed by all the cyan plates and so on. If you had to change film in the middle of a job or if a PostScript error stopped the job, you were likely to end up with out-of-register plates and a pile of wasted film. You couldn't, for example, print just a cyan plate of the third page to replace a scratched piece of film. As a result, operators had to laboriously break each document into single pages or risk enormous film waste and inconvenience. The new version of PrePrint allows for complete flexibility in page and plate selection.

PrePrint's ability to include DCS files makes life easier for those who want to do retouching and separation in such programs as Photoshop or Letraset's ColorStudio, and simply pass the separated files along to PageMaker. With new capabilities for editing images in CMYK (cyan, magenta, yellow, black) in both those programs, preseparated DCS files will take on even more importance.

The old version of PrePrint also ignored the imagesetter calibration settings and applied its own Printer Description Extension (PDX) imagesetter corrections. As a result, most calibration adjustments were doubled, in many cases throwing density settings way off. In PrePrint 1.5, the calibration of the imagesetter can be set to override the PDX calibrations.

The older version of PrePrint delivered decent separations, but like all new separation programs it had weaknesses, especially in adjusting saturation levels in certain colors. Version 1.5 has improved its color model and seems to have gotten a few of the kinks out of the color-translation tables.

In with the new. Aside from correcting some of the worst features of the earlier version, PrePrint 1.5's capacities have been significantly extended. PrePrint now can handle separated TIFF files in CMYK form, a likely secondary standard after the DCS format. Even better, since few applications currently handle these files now, you can substitute a low-resolution RGB (red, green, blue) version of the TIFF file in an application such as FreeHand and then automatically substitute the high-resolution version of the file at print time, with cropping and rotation information in place.

For users wishing to produce pages for several different formats, PrePrint now allows you to globally reset the dot-gain parameters for the whole document. This is extremely helpful for producing an ad that will run on both magazine stock and newsprint.

The Print command offers a detailed description of exactly what it is you are going to print, including colors, dimensions, all crop marks, dot gain and other printing options. This feature makes it easy to fix last-minute mistakes.

The most important new feature in PrePrint 1.5 is the enhanced linking. File linking was present in the earlier version, but it has been polished and extended. You can link any graphic file to the main separation file at any time. This means that it is easy to make changes or corrections to a graphic file and substitute it without having to open up PageMaker and re-save the master file.

Still rough in places. Some features that users objected to in the first version have not been fixed. You still have to save the main files in PostScript format before processing them; you cannot print separations directly from PageMaker. This has its advantages in linking, but many users want to print from the application rather than go through an extra step.

Moreover, PrePrint is a fairly costly program for a PageMaker designer to buy, and many are likely to leave that burden to the service bureau operator. As a result, few clients will create low-resolution sample separations in advance (as many XPress users do), and the result will be a larger number of misconceived separations. We hope that Aldus will bundle at least a limited version of PrePrint with PageMaker in the future, perhaps in a version that works only with 300-dpi printers.

Who is it for? The color-correction controls (commands such as Sharpen, Enhance Midtones, Contrast and Brighten) are simplified for novice users. This command format may be a big help to non-technical users who want to start making simple adjustments, but for sophisticated users, a clearer understanding of what is going on underneath is more valuable. For example, how much sharpening does the Sharpening command actually do — and is this the same as the unsharp masking feature in other applications? We expect that even novice users will want to become experts eventually.

Conclusions. PrePrint 1.5 is a big improvement over its predecessor. The crippling problems have been fixed and several important new features have been added. The product is finally a reasonable alternative for those who prefer to create color pages with PageMaker.

On the other hand, PrePrint still has a long way to go. Aldus hasn't decided whether this is a program for users or service bureaus, a production tool for printing, or a color-correction tool.

It's also unclear whether PrePrint is designed for novices or experts. Perhaps the modest choice of version number (instead of 2.0) means Aldus has left PrePrint some more room to grow.

Aldus Corp. is at 411 First Ave., Seattle, Wash. 98104. Phone (206) 622-5500; fax (206) 343-3360. □

SCORE CARD
PrePrint 1.5
MacWEEK

Overall value	●
Performance	●
Features	●
Ease of use	●
Documentation/support	●
List price	$495

● Excellent ● Very good ● Good
◉ Average ○ Below average

ON BALANCE
PrePrint 1.5
Aldus Corp.
MacWEEK

PrePrint 1.5 finally makes PageMaker a platform for serious color publishing and gives very good separation capabilities to PageMaker, Illustrator and FreeHand. Aldus responded to complaints from the service bureau industry and made PrePrint into a usable product. But the program still hasn't quite established for whom and what it is intended, and the price tag is guaranteed to scare away all but imagesetter owners.

SYSTEM 7 COMPATIBILITY

PrePrint 1.5	
Balloon help	No
TrueType	No
Publish and subscribe	No
Apple events	No
32-bit addressing*	No

*According to vendor

Reactions from the service bureau trenches

While it is still early, the reaction from service bureaus using Aldus PrePrint 1.5 ranges from enthusiasm to moderate respect. Most find the quality of the separations at least acceptable, and all are pleased by the program's improved ease of use and features.

Daniel Clark, at Raging Fingers in Los Angeles is overjoyed about the changes. "It's like night and day," he said. "We are now getting bright, fully saturated colors without errors." Clark found that the program makes Aldus FreeHand especially viable for serious color work that includes imported photographic images.

For Van Tanner of Desktop Publishing Services Inc. in Greensboro, N.C., the key feature is the ability to run longer jobs. "We can do a 15-page color PageMaker job in one run, which we would have never dared to do with the older version," he said.

Steve Werner of Central Graphics in San Diego found that the new program puts out decent separations and is reliable on routine jobs. He warned against getting involved with extremely complex pages, however, especially those with DCS (Desktop Color Separation) files. Others we talked to said the program seemed slow at processing DCS files and less than 100 percent reliable on very large DCS images. Werner noted that the separated files have no problem with the patented High Quality Screening (HQS) on the company's Linotype 330.

Ed Bell of LaserWriting in Denver, said he is still "not in love with the interface." Though with some experience and experimentation, he conceeded that it is possible to get good color output from the package.

— By Steve Hannaford

EasyServer

From Page 38

charge in modern servers, AppleShare has proven reliable over years of use. However, ShirtPocket offers a 30-day money-back guarantee and a one-year warranty. Also, if you have a PC on hand, one of the EasyServer kits lets you build a server based on that.

The EasyServer Administrator application is superior to AppleShare Admin, and the server software itself appears to be genuinely AFP-compliant and fast. The low-cost, ease of setup, and well-written administrator and user documentation make this product worth consideration by managers looking for a server for a Mac network and willing to install something unorthodox to save some money.

ShirtPocket Software is at P.O. Box 40666, Mesa, Ariz. 85274-0666. Phone (602) 966-7667; fax (602) 894-9136. □

EasyServer models

NAME	PRICE	CPU	NETWORK	MEMORY
Sidewinder	$1,800	16-MHz '286	LocalTalk	1 Mbyte RAM
Cobra-AT	$2,700	25-MHz '386	LocalTalk	64-Kbyte cache, 1 Mbyte RAM
Cobra	$2,700	25-MHz '386	Ethernet	64-Kbyte cache, 1 Mbyte RAM
Viper	$3,100	33-MHz '386	Ethernet	64-Kbyte cache, 1 Mbyte RAM
Python	$3,500	40-MHz '386	Ethernet	64-Kbyte cache, 1 Mbyte RAM

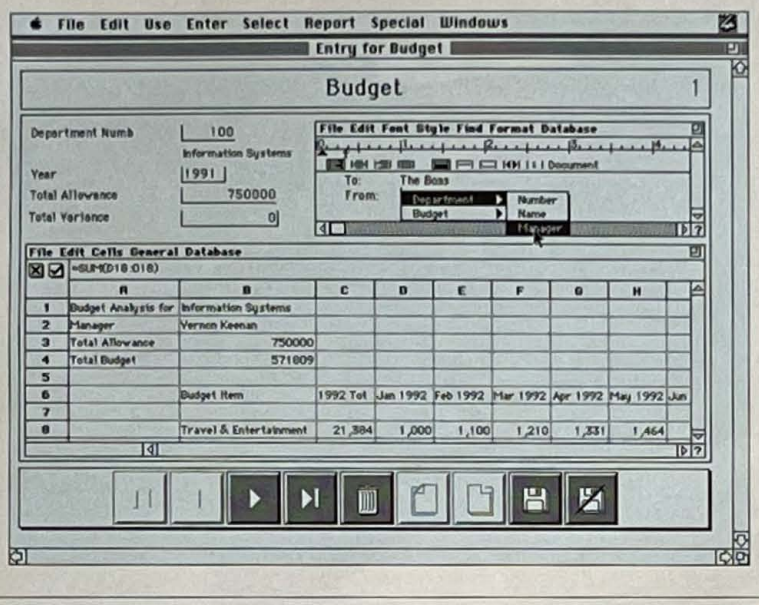
4D add-ons

From Page 38

come additions to 4th Dimension's programming language. The new commands give programmers control over the behavior of the modules, even permitting the creation of an off-screen instance of 4D Calc spreadsheets for internal calculations.

ACIUS has created a data-sharing mechanism between its modules, where data that's duplicated between modules is updated automatically when the source data gets changed. Don't confuse ACIUS' data sharing with System 7.0's publish and subscribe. ACIUS' modules can share information only between themselves; they cannot create the special documents and send the necessary Apple events to work with Apple's publish and subscribe system.

Installation and documentation. Both products come in slick, well-produced packages with three manuals each. The documentation is clear, concise and well-written, and there are plenty of graphics that clarify the material. There are extensive tutorial sections, but they may be skipped since all the material in the tutorials is covered in detail in later chapters of the User's Guide. We did wish that the Language Reference used a more coordinated set of examples in the programming samples.



ACIUS' 4D Calc and 4D Write can be included as objects in 4th Dimension data-entry layouts. Database elements can be inserted into these objects by clicking and holding down the Shift and Option keys.

Installation consists of copying the installation program to your hard disk, running an installer program and inserting the external procedure resources into a target database. To save disk space, you may install the resources in a special file to avoid duplicating them in all of your database files.

32-bit clean? We tested 4D Calc and 4D Write with Version 2.2 of 4th Dimension. We had no problems using our database under System 6.0.7 on a Mac IIci with 8 Mbytes of RAM. We did, however, have a couple of reproducible memory-related errors with 4D Calc when we tried to run the same database application under System 7.0 with 32-bit addressing enabled, using a IIci with 20 Mbytes of RAM.

4th Dimension isn't object-oriented, but 4D Calc and 4D Write provide the most sought-after benefit of those systems: You can add a lot of new capability just by snapping in new components.

Conclusions. 4th Dimension isn't object-oriented, but 4D Calc and 4D Write provide the most sought-after benefits of those systems: You can add a lot of new capability to existing or new systems just by snapping in new components. Through these two modules, developers can build in functions that previously were available only from additional applications.

The data created by these modules is stored easily in the database. Typical of 4th Dimension, if you spend time learning how to program the modules well, you can make them stand on their heads. From this internal programming perspective, we think 4D Calc offers more to database developers than 4D Write.

These new modules are just the sort of database add-ons you'd love to have but would never program yourself. Although we had problems in 32-bit-addressing mode, the functionality of these modules is undeniable.

ACIUS Inc. is at 10351 Bubb Road, Cupertino, Calif. 95014. Phone (408) 252-4444; fax (408) 252-0831. □

SYSTEM 7 COMPATIBILITY

4D Calc and 4D Write	
Balloon help	No
TrueType	Yes
Publish and subscribe	No
Apple events*	Yes
32-bit addressing**	Yes

**When used with 4th Dimension 2.2*
***According to vendor*

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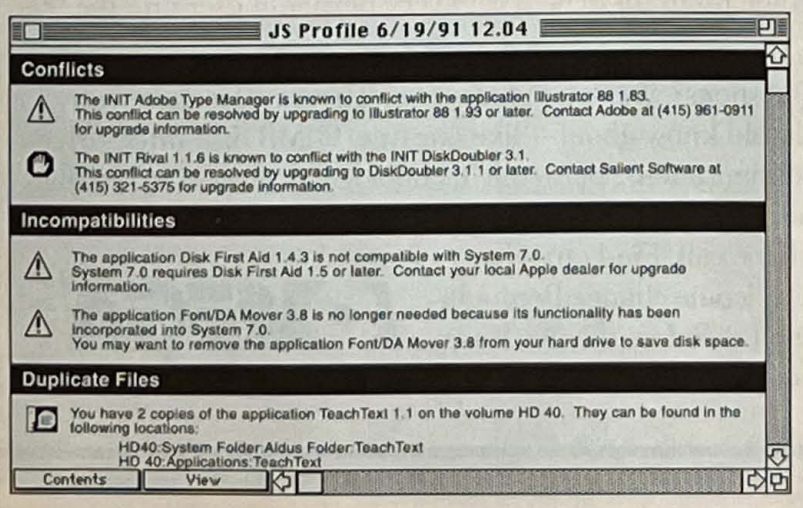
JS Profile 6/19/91 12.04
Conflicts
The INIT Adobe Type Manager is known to conflict with the application Illustrator 88 1.83.
This conflict can be resolved by upgrading to Illustrator 88 1.93 or later. Contact Adobe at (415) 961-0911 for upgrade information.
The INIT Rival 1.1.6 is known to conflict with the INIT DiskDoubler 3.1.
This conflict can be resolved by upgrading to DiskDoubler 3.1.1 or later. Contact Salient Software at (415) 321-5375 for upgrade information.
Incompatibilities
The application Disk First Aid 1.4.3 is not compatible with System 7.0.
System 7.0 requires Disk First Aid 1.5 or later. Contact your local Apple dealer for upgrade information.
The application Font/DA Mover 3.8 is no longer needed because its functionality has been incorporated into System 7.0.
You may want to remove the application Font/DA Mover 3.8 from your hard drive to save disk space.
Duplicate Files
You have 2 copies of the application TeachText 1.1 on the volume HD 40. They can be found in the following locations:
HD40:System Folder:Aldus Folder:TeachText
HD 40:Applications:TeachText
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PRODUCT WATCH

- Buying info
- Expert advice

Cost-effective desktop publishing

Modestly priced desktop publishing packages now offer an array of tools for Mac users who put together smaller DTP projects.

By Robert Hollis

In the Stone Age of desktop publishing, back around 1987, Macintosh users were limited to a trio of page-layout programs, Aldus Corp.'s PageMaker, Quark Inc.'s QuarkXPress and Letraset's Ready,Set,Go!. But as PageMaker and XPress, the two market leaders, have grown in sophistication and cost, the need for simpler solutions has emerged.

Today, there are five companies with software aimed specifically at Mac users who put together smaller desktop publishing projects. The quintet includes Ready,Set,Go! from Letraset; Publish It! Easy from Timeworks Inc.; Personal Press from Silicon Beach Software, a subsidiary of Aldus; RagTime Classic from RagTime USA Inc.; and MaxPage from Applied Systems & Technologies Inc. These programs are used to produce an astonishing array of documents, including newspapers, theater posters, books and instruction manuals.

A simpler solution. "I tried Aldus (PageMaker)," said Paul Cohen, president of Cohen Shoe Machinery Co. in Topsfield, Mass. "It did seem more complicated than what I wanted." What Cohen wanted was "something to produce a good-looking document but was easy to use."

Cohen decided instead to try Timeworks' Publish It! Easy 2.11. Cohen needed to lay out a two-page quarterly newsletter filled with hints, technical tips and announcements of new industrial sewing machines, which the company sells to shoe manufacturers.

"I got it home and started playing around, and was running with it the next day," he said. Cohen said he particularly likes the package's templates for various publications, including one for a newsletter. "It was about 80 percent of what I wanted," he said. "I simply moved the margins around and added the words. I was done with the newsletter by the end of the week."

Not corporate yet. Despite their popularity among small-business owners, independent consultants and designers, not many of these low-end packages have penetrated the nation's corporate suites, where Quark and Aldus continue to rule the roost.

"Most of us use the high-end DTP software because when we bought into the game in 1987, that was all there was," said Tom Mullaney, manager of information systems for Los Angeles-based Arco Products Co. Switching to lower-priced publishing software at this point in the game just isn't cost-effective, Mullaney said, because of the considerable investment companies such as Arco have made in training their users to work with the high-end packages. "Once you've made the investment in a PageMaker or QuarkXPress, you follow the upgrade path," Mullaney said.

However, if a Mac user at Arco doesn't need a big and complicated program like PageMaker, Mullaney suggests using one of several high-end word processing programs, such as Claris Corp.'s MacWrite II or Microsoft Word 4.0, which incorporate many of the rudimentary DTP tools found in low-end packages (see related story, next page).

Small cost, big features. Many of the low-cost DTP programs add a number of useful features to traditional desktop publishing. For example, the $249.95 Publish It! Easy 2.11 is System 7.0-compatible and boasts new database and mail merge capabilities within its DTP shell. Timeworks said its integrated approach to writing, graphics and publishing eliminates the need to learn and switch between different applications.

David Wyman, a Los Angeles-based publisher of an adventure-travel newsletter called Image Quest, said he chose Publish It! Easy because it was far less expensive than PageMaker and QuarkXPress. "I don't have any need for color; I do fliers, trip reports, ads and brochures," he said. "For what I use it for, it's great. The basic response I get is that my stuff looks very professional."

An $89 solution. By far the least expensive package in this group is Applied Systems & Technologies' MaxPage 1.2. At $89, it would seem to be a pretty thin-featured package, but the software gives users simple yet powerful tools.

MaxPage can be used to create financial reports containing spreadsheets, certificates and restaurant menus, as well as the more familiar newsletters. But like other low-end packages, it doesn't offer many of the more-sophisticated features found in PageMaker 4.0 and QuarkXPress 3.0, such as extremely precise text manipulation, automatic kerning and color-separation tools.

Users won't find MaxPage on many retailers' shelves, probably because its low price means low profits. It can, however, be purchased directly from the company.

RagTime Classic 2.1, at $195, sits in the middle of the low-end pack. Like its higher-priced sibling, RagTime 3.1, RagTime Classic allows integration of frames for text, spreadsheets and graphics on the same page.

The software is 32-bit clean and supports virtual memory and 32-bit addressing when running under System 7.0. It has import filters for Word 1.0, MacWrite and ASCII documents. RagTime USA says it is working on an upgrade with advanced filters that will allow imports of Word 3.0 and 4.0, MacWrite II and T/Maker Co.'s WriteNow documents.

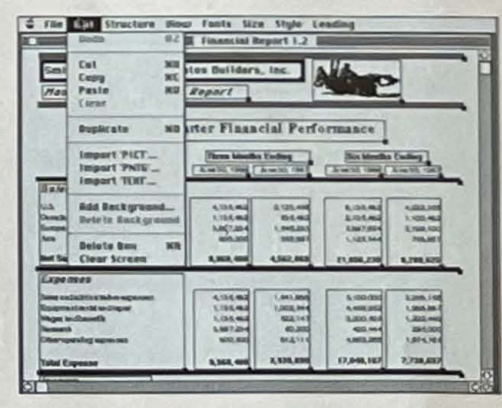
The package has its loyal fans, such as Charle and Duane Kenward, who sell real estate on the island of Maui, Hawaii. After learning desktop publishing with an old version of PageMaker, the couple tried RagTime Classic and found that it "delighted us with its ease of use," Duane Kenward said. They stopped using PageMaker and now use RagTime exclusively for a real-estate newsletter, brochures and ads.

Added cost, added features. Silicon Beach's Personal Press 1.0, at $299, sits at the top end in terms

See Publishing, next page

PriceWatch
LOW-END DTP SOFTWARE

Item	List price	Street price	Source
APPLIED SYSTEMS & TECHNOLOGIES MaxPage 1.2	$89	n/a	Only available direct
LETRASET Ready,Set,Go! 4.5	$295	$210	MicroAge Computer Store Tempe, Ariz.
RAGTIME USA INC. RagTime Classic 2.1	$195	$185	Connecting Point Colorado Springs, Colo.
SILICON BEACH SOFTWARE Personal Press 1.0	$299	$260	ComputerLand Las Cruces, N.M.
TIMEWORKS INC. Publish It! Easy 2.11	$249.95	$179	ComputerWare Berkeley, Calif.



The high and the low of economy DTP: Silicon Beach's $299 Personal Press 1.0 (top) offers many features of the more expensive DTP programs, including gray-scale image-editing tools. Applied Systems & Technologies' $89 MaxPage (bottom) offers a low price and adequate features for the casual desktop publisher.

Word processing packages do double duty for DTP

If you have relatively simple page-layout requirements, many publishing professionals suggest that you take a close look at your word processing software's desktop publishing capabilities.

Today, all the big-name word processing products — such as Microsoft Corp.'s Word 4.0, Claris Corp.'s MacWrite II, Ashton-Tate Corp.'s FullWrite Professional and WordPerfect Corp.'s WordPerfect — offer users an array of layout tools that were once the exclusive province of DTP packages.

Word 4.0, for example, allows users to set various column widths, add spacing between lines in half-point increments, import tabular material directly into tables, and crop and scale graphics. MacWrite II also allows users to do many of these things, as well as edit a document in the page-preview mode, color the text and add special type.

Publishing

From previous page

of price, but it has a raft of features not found on any but the most expensive DTP packages. Among these are "proxies," which show previews of almost all dialog-box options so a user can gauge their effects on a page design before applying them to the document. Another handy feature is called Posted Notes. This lets a user attach non-printing notes, such as editing comments, throughout a multipage document. This is especially useful if, for example, an editor has questions or suggestions for the writer. Posted Notes can remain as part of a file all the way to the output stage and never see print.

Ready,Set,Go! is perhaps the best-known — and oldest — of the low-end DTP packages for the Mac. At one time, it was Letraset's top-of-the-line publishing package, but in recent years the lack of upgrades has led many to conclude that Ready,Set,Go! is losing out to newer and more-expensive offerings, such as the company's DesignStudio.

Despite its age, the package can import text from all the standard formats. With the exception of Personal Press, it is the only DTP program of the group that offers users style sheets, which help maintain a consistent look from page to page in long documents.

Conclusions. Many low-end DTP software users agree that the packages offer good performance for the price. With top-end product prices seemingly increasing all the time, these low-cost page-layout programs offer those who create simple documents a cost-effective desktop publishing alternative. □

Product Info

APPLIED SYSTEMS & TECHNOLOGIES INC.
MaxPage 1.2: $89
227M Hallenback Road, Cleveland, N.Y. 13042
Phone (315) 675-8584

ASHTON-TATE CORP.
FullWrite Professional 1.5: $249
20101 Hamilton Ave., Torrance, Calif. 90509
Phone (213) 329-8000; fax (213) 538-7998

CLARIS CORP.
MacWrite II: $249
5201 Patrick Henry Drive, Box 58168, Santa Clara, Calif. 95052
Phone (408) 987-7000

LETRASET
Ready,Set,Go! 4.5: $295
40 Eisenhower Road, Paramus, N.J. 07653
Phone (201) 845-6100; fax (201) 845-5351

MICROSOFT CORP.
Microsoft Word 4.0: $395
1 Microsoft Way, Redmond, Wash. 98052
Phone (206) 882-8080 or (800) 426-9400;
fax (206) 883-8101

RAGTIME USA INC.
RagTime Classic 2.1: $195
702 Marshall St., Suite 322, Redwood City, Calif. 94063
Phone (415) 780-1800 or (800) 875-9632;
fax (415) 780-1807

SILICON BEACH SOFTWARE, A SUBSIDIARY OF ALDUS CORP.
Personal Press 1.0: $299
9770 Carroll Center Road, Suite J, San Diego, Calif. 92126
Phone (619) 695-6956;
fax (619) 695-7902

TIMEWORKS INC.
Publish It! Easy 2.11: $249.95
625 Academy Drive, Northbrook, Ill. 60062
Phone (708) 559-1300 or (800) 535-9497;
fax (708) 559-1399

WORDPERFECT CORP.
WordPerfect 2.01 for the Macintosh: $495
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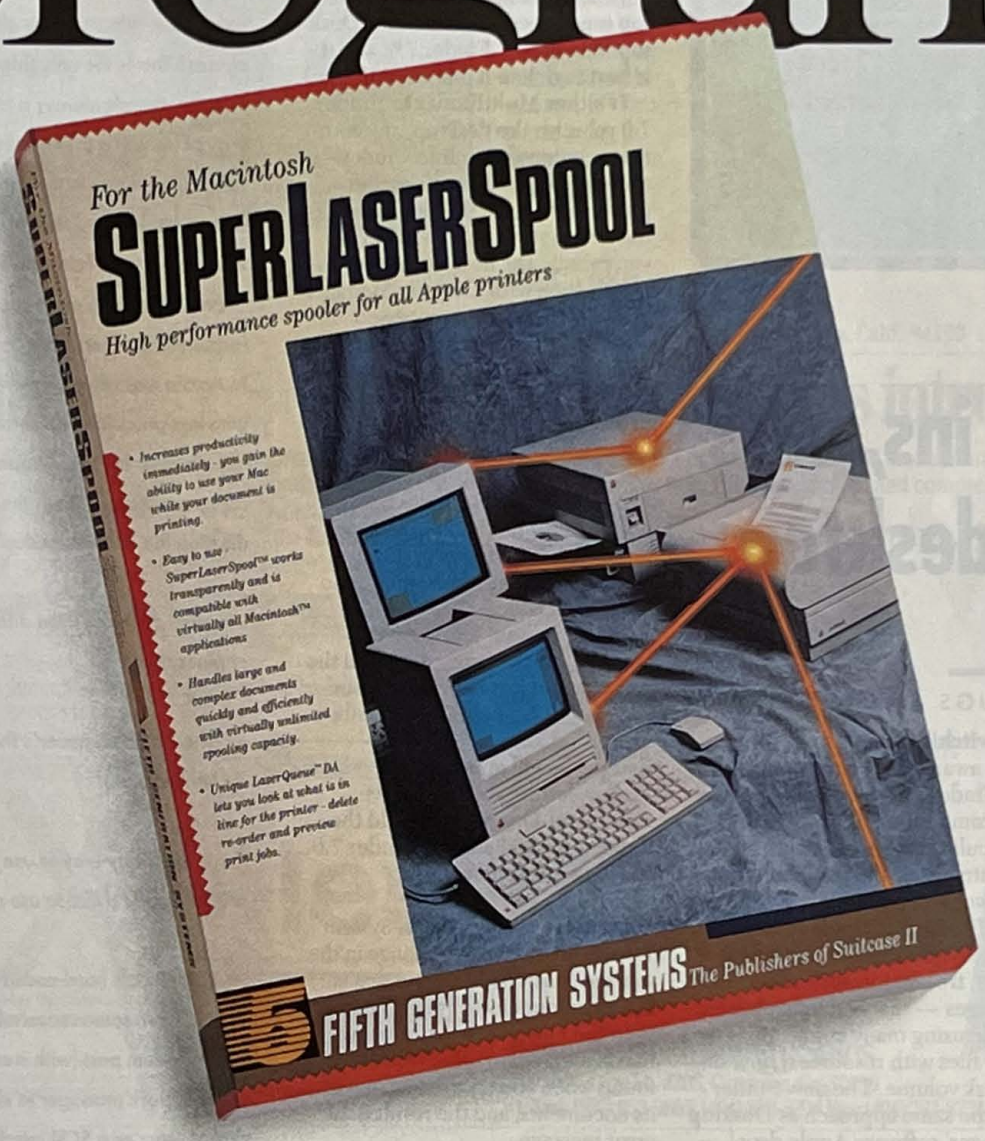
Wait loss program.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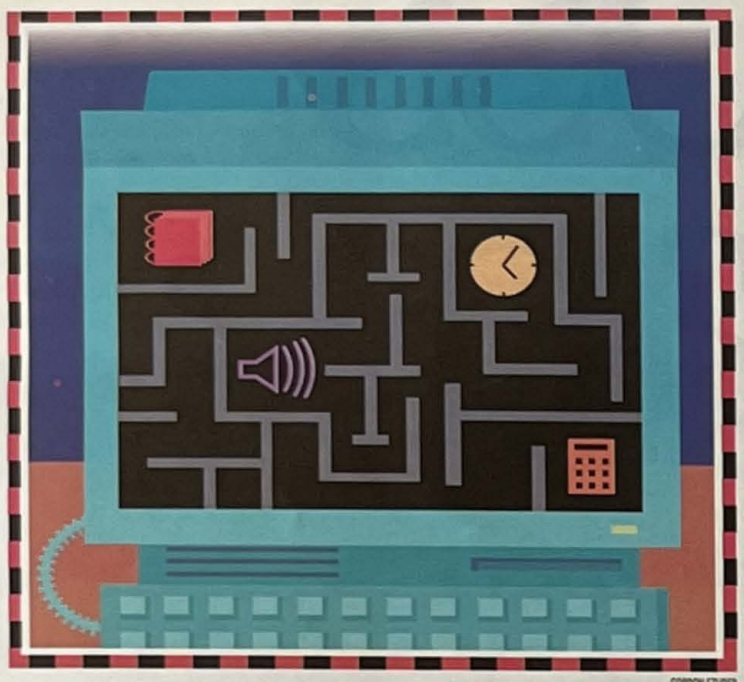


GORDON STUDER

MacInTouch RIC FORD

Exploring the ins, outs of Finder 7.0 desktop

System 7.0 handles the desktop in some new ways, and it's important to understand the differences between the old and new systems.

BUGS & TIPS

Switching desktops. It is good to be aware of several issues with the Finder's desktop when upgrading from System 6 to System 7.0, particularly if you are going to have to switch back and forth between the two environments.

In Finder 7.0, Apple finally fixed the nasty problems — including delays, freezes, crashes and error messages — that had long plagued people using many applications (or other files with resources) on a single disk volume. The new Finder uses the same approach as Desktop Manager, software Apple developed years ago to eliminate the problem on AppleShare servers. The software, which many users with large disks had installed on their personal systems, bypasses the Resource Manager, which was at the heart of the problem (see MacWEEK, Jan. 12, July 12 and Nov. 8, 1988, and Oct. 31, 1989).

Using Desktop Manager on your System 6 disks avoids the hassle of rebuilding the desktop every time you switch between the old and new systems, since they can share the same invisible Desktop DB and Desktop DF files. Finder 7.0 needs to make some one-time modifications to the old Desktop Manager's files, but thereafter you can switch freely between the two systems, as long as Desktop Manager is installed on the System 6 disk.

(The invisible file named Desktop is not needed with either Desktop Manager or Finder 7.0, and it is best to delete it if it is not in use.)

If either MultiFinder or Finder 7.0 rebuilds the desktop, any comments entered into Info windows are lost, despite Apple's earlier promises to solve this problem in the new system. And, whenever you rebuild the desktop under System 6, even with Desktop Manager installed, it must be processed once again the first time you restart with Finder 7.0.

To rebuild the desktop manually in System 7.0, hold down the Command and Option keys during the last part of the start-up process, just as you do with Finder 6. (The option of rebuilding the desktop by holding these same keys down when quitting an application is no longer available.)

Under System 7.0, there is another, quicker way to rebuild the desktop, but it is not recommended. System 7.0's abort key combination — Command-Option-Escape — will quit from the Finder, letting you hold down Command-Option to rebuild the desktop immediately as Finder 7.0 starts back up again.

Invisible applications. System 7.0 also brings another change in the way the desktop works, one that is hidden under most circumstances.

In the new system, an application that is marked invisible will not be found when you try to open one of its documents, and the result is an error message.

Under System 6, documents are always connected with applications, even if the application is invisible. (The Desktop Manager has no effect on this behavior under System 6.)

Each approach has its advantages. Under System 6 you could set up your Macs so naive users couldn't delete, rename or move applications, but could still run them by double-clicking on a document.

Under System 7.0, the applications are more completely hidden, and you can open them only with the help of a utility such as the DiskTop desk accessory from CE Software Inc. (DiskTop is convenient both for launching applications and for setting the Invisible attribute.)

Missing layouts. Mike O'Connor's freeware application, Layout 1.9, lets people control how Finder 6 handles the desktop, including how icons are staggered, how many windows can be open at once, how text is displayed and much more (see MacWEEK, Feb. 13, 1990).

In Finder 7.0, Layout 1.9 no longer works because the new Finder lacks the LAYO resource O'Connor's software modified. System 7.0 offers a Views control panel instead, with a few of the same functions, but far less flexibility.

PRAM and System 7.0. Under System 7.0, the secret trick for rebuilding parameter RAM is even more unfriendly and obscure than in System 6. (PRAM is a special chunk of battery-backed memory that retains data such as your control panel settings even when the computer is shut off.)

In System 6, you could reset almost all of this special memory by selecting the Control Panel DA while holding down Command-Option-Shift. In System 7.0, you must hold down Command-Option-P-R while restarting the computer. When the system sees this key combination, it resets PRAM and restarts the computer. □

Comments on MacInTouch are welcome at 7 Parmenter Ave., Maynard, Mass. 01754. Phone (508) 897-2621. Address electronic mail to 72511.44@compuserve.com from the Internet; to 72511.44 from CompuServe; to MACWEEKBOS from America Online, Delphi and GEnie; to RICFORD from MCI Mail or Connect. From AppleLink, 72511.44@compuserve.com@INTERNET# is the current address.

Join us on-line in the MacWEEK Forum by typing GO ZMC:MACWEEK on CompuServe or Zmac.

The Help Desk

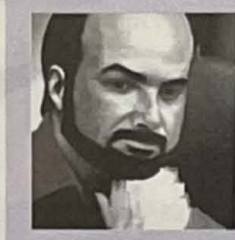
Making PrintMonitor 7.0 a little less pushy

System 6 users who have turned on Background Printing and who also print manual-feed pages have been complaining. After they switch to System 7.0's LaserWriter drivers, they receive annoying alerts that "the LaserWriter is waiting for a sheet of paper." As they say, this is a feature, not a bug.

To turn off these prompts, choose the Preferences command in the PrintMonitor application (you can do this while printing) and click the "Give no notification" radio button.

Ask David Ramsey

It's safer to use SANE without extension



***Q:** I've started getting strange, small errors in my accounting software, and the vendor can't help. The Mac checks out perfectly and everything else runs with no problems. What's going on?*

A: Are you, by chance, running one of those system extensions that's supposed to make your Mac race through number-crunching chores? This is the only thing I know of that could cause this problem. In mathematics, there's always a trade-off between speed and precision. The Mac's way of handling math, called the Standard Apple Numeric Environment (SANE), is unique in the consumer computer market in that it's consistent across Apple computers from the Apple IIe on up. SANE is also very precise, which means it's fairly slow.

Even Macs with math coprocessors suffer to some extent, since SANE-formatted numbers must be translated to and from the formats used by the Motorola math chips. Extensions that increase SANE speed work faster and with less precision. But since SANE is standard on every Mac, some programs depend on it for proper operation. Relatively few programs spend a significant percentage of their time executing SANE routines, however, so I'd advise ditching the SANE-speedup extension.

***Q:** How do you tell the difference between an Apple engineer and an IBM engineer?*

A: The Apple engineer's the one who was just laid off. (Thanks to Tom Petaccia for this one.)

***Q:** Is there any way to use LocalTalk with the modem port rather than the printer port? I'd like to use a local printer and retain access to the network.*

A: LocalTalk is hard-coded to use the printer port and only the printer port. You do have some reasonable options, though. You can connect your printer to the modem port (with a serial switch box if you have a modem), or convince your network manager to switch you to Ethernet, which connects via a card on slotted Macs or a SCSI interface box on compact Macs.

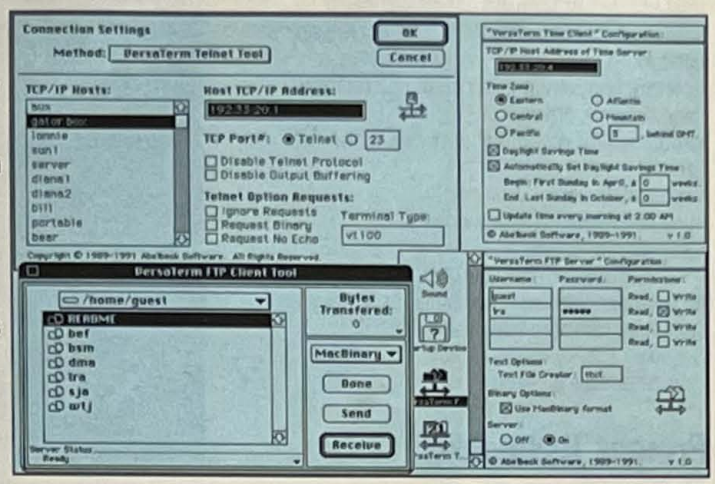
Please send questions to David Ramsey on CompuServe: 76702,335 or to Ask David Ramsey, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105.

VersaTerm TCP/IP Utilities

VersaTerm 4.5 and VersaTerm-PRO 3.5 provide high quality DEC and Tektronix terminal emulation. Now, a wealth of TCP/IP network services are available, at a price you can't afford to pass by.

TCP/IP Telnet terminal services and FTP (client/server) file transfer services are supported as Communications Toolbox Tools. Additionally, two Control Panel Devices will synchronize your Mac's clock with a TCP/IP host, as well as make your Macintosh an FTP background file server, using less than 50K of memory!

VersaTerm and VersaTerm-PRO have gone Network, but the price is unchanged:
VersaTerm 4.5 at $149
VersaTerm-PRO 3.5 at $295



Synergy Software

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Talk is cheap with MacMike

Voice recording is standard equipment on the Macintosh LC and IIsi. Now, MacMike brings that powerful tool to all other Macs for only $59.95.

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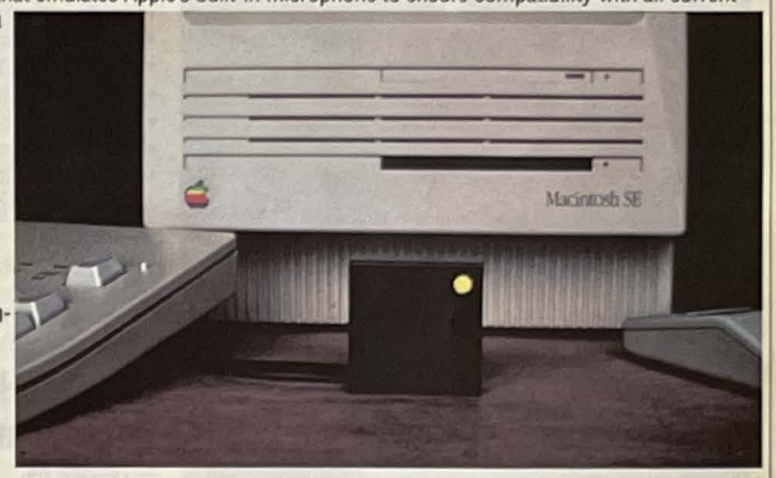
MacMike, the voice digitizer, is a self contained microphone that comes with a six foot serial cable and velcro™ fasteners so it can be easily attached to any surface.



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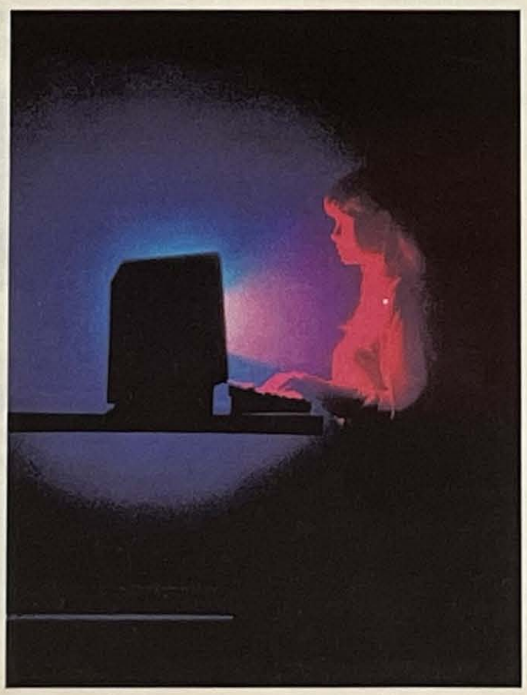

NoRad Corporation

1549 11th St.
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(213) 395-0800
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Network fax... e-mail not required

FaxPro™ provides every Macintosh on any network the ability to send and receive faxes using one or more FaxPro modems. FaxPro's chooser selectable print driver interface makes sending faxes as easy as printing to a LaserWriter.
A few of FaxPro's features:
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• Automatic fax queuing
• Fax status reported to each user
Named "Excellent Buy" *Link-up Magazine (12/90)*
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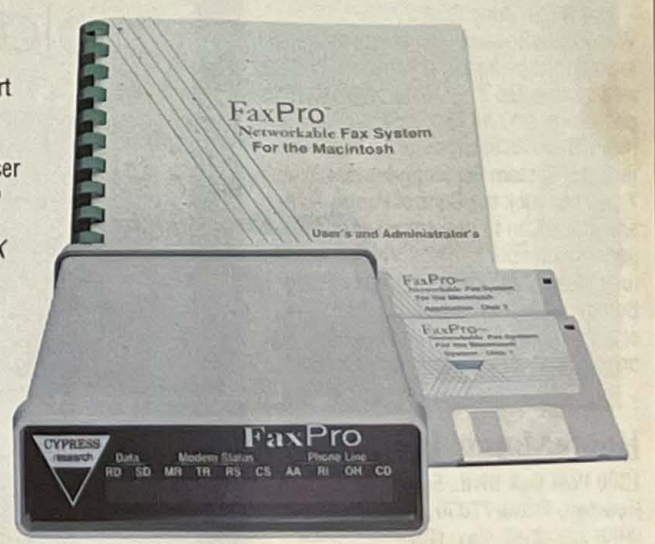

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Control network application use

Finally, there is an effective way to limit concurrent application use on local area networks. Quota is a powerful new management tool that ensures the total number of licensed copies will never be exceeded, no matter how many users are on the network.

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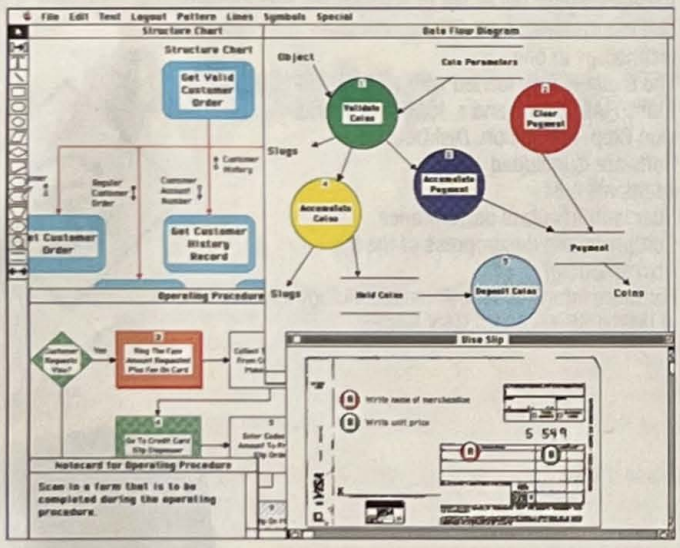


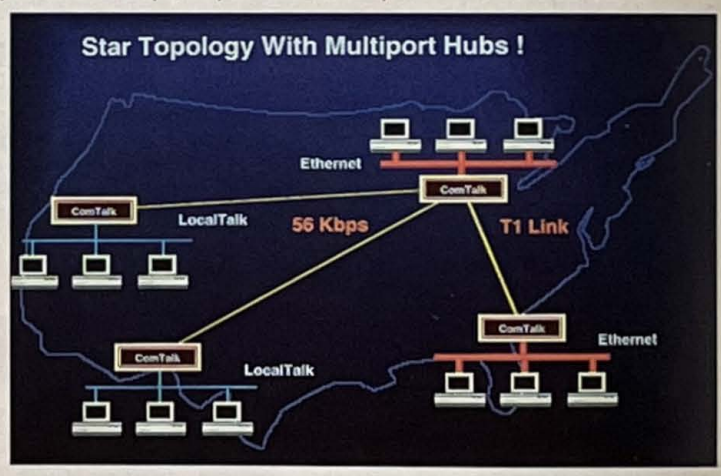
Kaetron Software Corp.
12777 Jones Rd., Suite 445, Houston, Texas 77070 (713) 890-3434 Fax: (713) 890-6767

High speed remote routers!

ComTalk (ranked as the fastest router in the April '91 issues of MacUser and Macworld) is available with WAN ports that connect remote EtherTalk and/or LocalTalk networks via low cost 56/64 Kbps synchronous links, or via higher speed links (up to 1.544 Mbps). Other ComTalk features include:

- High throughputs (97 percent at 56 Kbps, 90 percent at T1 rate).
- Up to 6 WAN ports for Hub configurations.
- Inter-site network security.
- Network Management from a single Macintosh.

ComTalk is also available in multiport local, and combination remote/local router models.

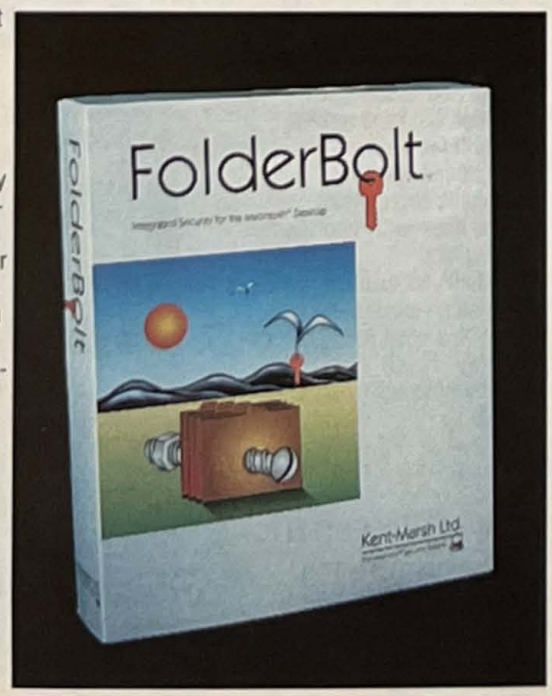


APT Communications
9607 Dr. Perry Rd., Ijamsville, Md. 21754 (800) 842-0626 Fax: (301) 874-5255

Practice safe security

"If you work in a shared environment, but don't want to share everything on your Macintosh, you may want a copy of FolderBolt... FolderBolt is a welcome addition to the Mac Security Arsenal."
– MacWEEK June 25, 1991

With FolderBolt you can create completely locked folders, read-only folders, or password-protected drop folders. Without the password, no one can duplicate, delete, or move them. What's more, you can even lock the System Folder and under System 7 you can lock the Control Panels Folder and Trash Can to prevent unwelcome tampering with your settings. All this and it's fully integrated into the Desktop. FolderBolt generates a complete audit trail of activity and can unlock all your folders at once and re-lock them upon shutdown.



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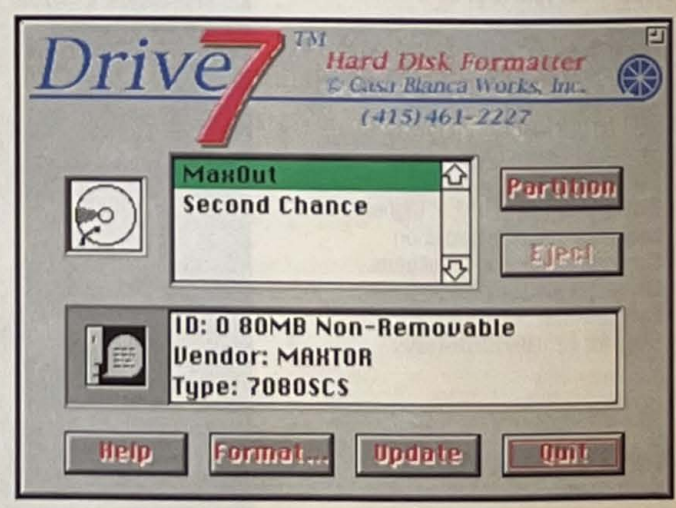
Universal hard drive formatter!

You may be surprised to learn that Apple's hard drive updater only works on Apple drives. And most third party drivers are incompatible with any other drivers. Drive7 is the only universal SCSI formatter/updater available.

- Formats/updates Apple and most third party drives (including Syquest).
- Updates in under 4 seconds.
- Tailored for System 7.0.
- Allows customized partitions for Mac OS and A/UX.
- The most versatile and affordable product available.
- Only $59.95 suggested retail price.

If you have multiple hard drives, you need Drive7!



Casa Blanca Works, Inc.
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3-D design with real-time rendering

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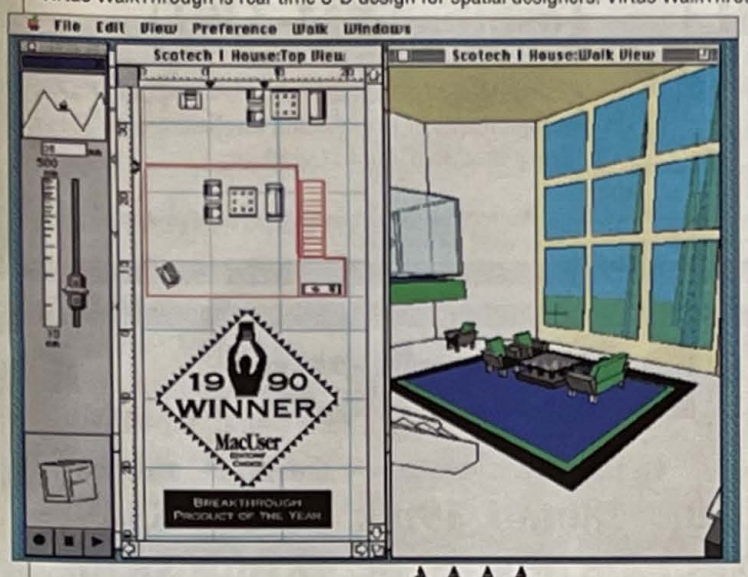

Virtus' revolutionary approach integrates rendering and design to give you a powerful conceptual tool that you can use like electronic modeling clay. With real time 3-D design you can produce superior models in less time by completely and rapidly exploring alternative ideas.

Call or fax today for more information. Breakthrough price $395!

4½ MacUser Rating

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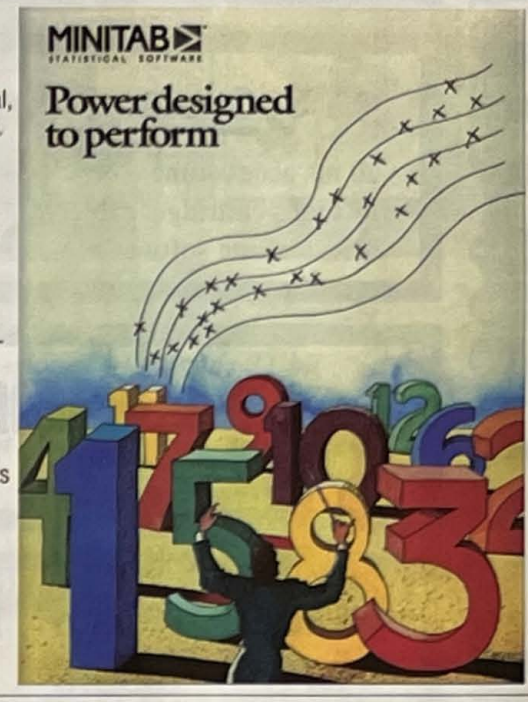
- $695/unit; quantity and academic discounts available.

Call: (800) 448-3555



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Zap Fax allows all network users fax documents sharing a single fax modem and a single phone line.

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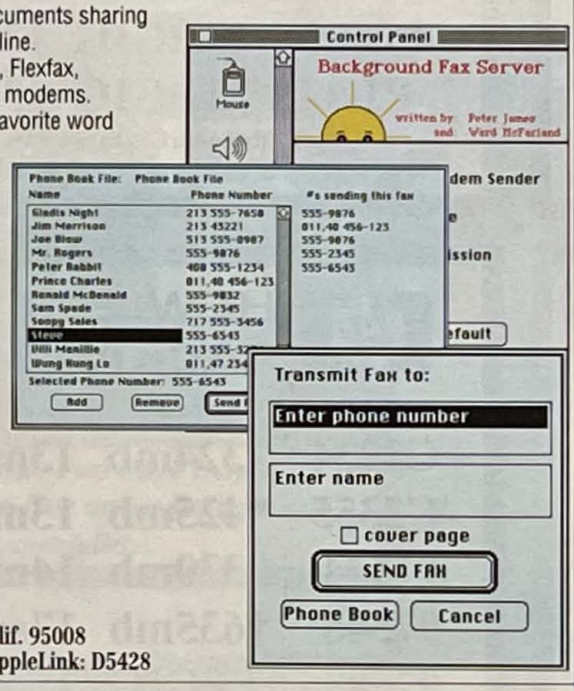

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Compact LocalTalk Star

RAN's Mini Star active star is designed especially for the Macintosh LocalTalk environment. It provides a simple method of connecting Macintosh computers and other network devices using LocalTalk protocols over unshielded twisted pair.

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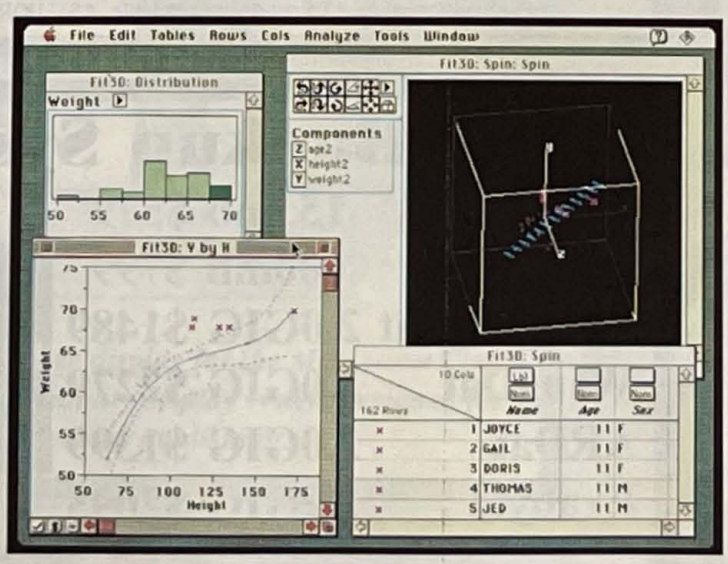

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WTI-VideoMax™ features two outputs:

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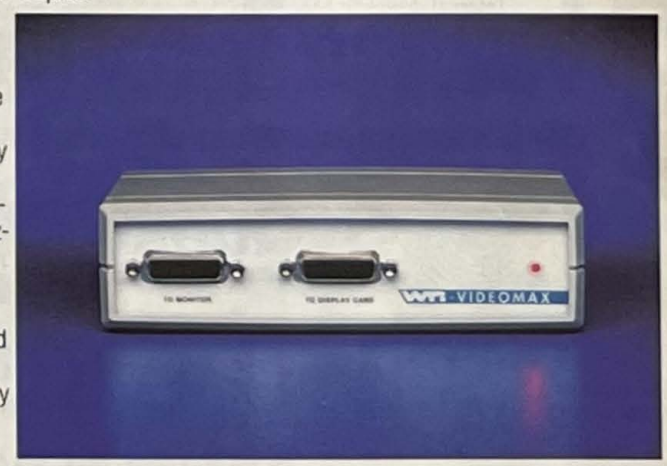
Choose either with the simple Enable/Disable switch. WTI-VideoMax™ connects directly to output of display card. Complements the WTI-Moonraker™ real time video digitizer and WTI-VideoClips™ which records live video and audio sequences directly to SCSI hard disc for editing and use in the PICS format. When ordering, please specify NTSC or PAL video format. Price: $375. Calif. residents add sales tax. Visa and MasterCard accepted. You may fax your order. Fax: 714-250-8969.



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- 15 ms access time
- Internal Drive
- Includes mounting kit

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SyQuest 88mb

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- Includes cartridge, cables, & formatting software

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CD-Rom Drives for the Macintosh

ClubMac (CM680)

- 350 ms Average Access Time
- Matsushita mechanism
- Two audio output jacks
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- Industry standard data cartridge
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ClubMac and Toshiba CD-Rom Drives have a ONE Year Warranty. NEC CD-Rom Drives have a TWO Year Warranty!!
All CD-Rom Drives include one disk cartridge and all necessary cables.

Quantum

Model	Capacity	Access	Internal	External
LPS	*50mb	9ms	$235	$295
LPS	80mb	9ms	$359	$419
PRO	105mb	12ms	$315	$375
LPS	*105mb	9ms	$349	$409
PRO	120mb	10ms	$555	$615
PRO	170mb	10ms	$565	$625
PRO	210mb	10ms	$665	$725

Quantum Drives have a TWO Year Warranty!
Pro Drives are 3.5" half height drives. LPS Drives are 3.5" third height drives.
*Low Power, 25 ms drives for the Mac Classic and LC are AVAILABLE.

Maxtor®

Model	Capacity	Access	Internal	External
7080	*80mb	19ms	$285	$345
LXT-213	▵207mb	15ms	$619	$679
LXT-340	▵340mb	14ms	$995	$1095
XT-8380S	†345mb	16ms	$1139	$1239
XT-8760S	†645mb	16ms	$1459	$1559
PO-12S	†1.2GIG	13ms	$2165	$2265
P1-17S	†1.6GIG	13ms	$2740	$2840

Maxtor drives have a TWO Year Warranty.
* 3.5" third height drives. Δ 3.5" half height drives. † 5.25" full height drives.

Imprimis Wren by Seagate

Model	Capacity	Access	Internal	External
1480N	420mb	13ms	$1375	$1475
2383NM	*330mb	14ms	$1145	$1205
4385NM	▵330mb	11ms	$1285	$1385
4766NM	675mb	15ms	$1445	$1545
4767NM	▵675mb	12ms	$1795	$1895
41200NM	1.2GIG	15ms	$2115	$2225
41650NM	1.6GIG	15ms	$2885	$2985

Seagate Drives have a ONE Year Warranty. Most drives are 5.25" full height drives.
Internal drives fit Mac II, IIx, IIfx. * 5.25" half height drives. ▵ Runner Series.

Extended FIVE Year Warranty AVAILABLE!

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5 Year Warranty

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97544	330mb	14ms	$1175	$1275
97548	†635mb	17ms	$1559	$1659
97549	†1.0GIG	17ms	$2259	$2359
97560	†1.4GIG	17ms	$2759	$2859

Hewlett Packard Drives have a FIVE Year Warranty!
Most drives are 5.25" full height drives. * 3.5" half height drives.
† High performance, 13.5 ms drives available, ASK FOR DETAILS!!

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Ask about Retrospect Bundle

44 mb $435
Extra Cartridges $69

88 mb $795
Extra Cartridges $115

Dual SyQuest 44 mb $795

SyQuest Drives have a TWO Year Warranty!
Includes one cartridge, all cables and formatting software.

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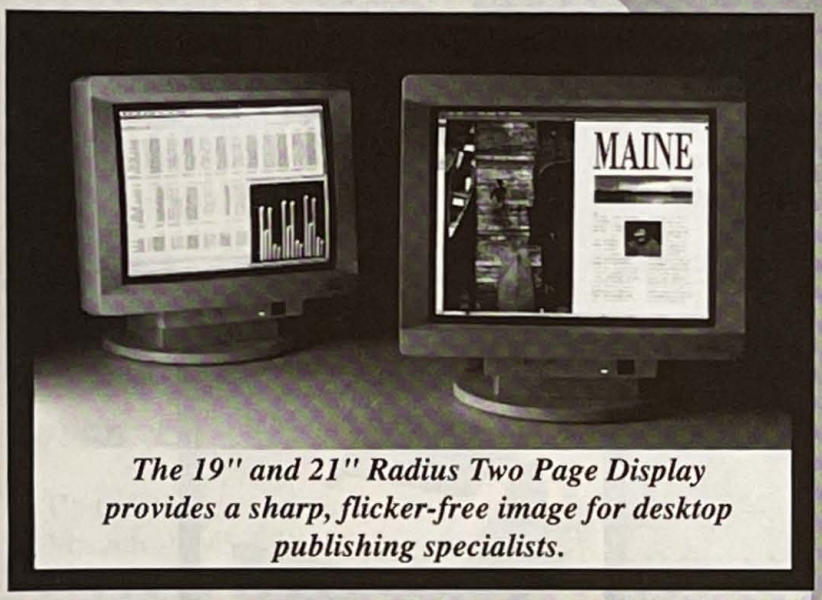
Call for more RasterOps Products (Color and Monochrome Monitors, Display Boards, . . .)

radius™ *"Professional quality display system designed for desktop publishing"*



The 19" and 21" Radius Two Page Display provides a sharp, flicker-free image for desktop publishing specialists.

The Radius Full Page display for the Macintosh Classic is a professional quality display system designed for desktop publishing.

Radius Color Display Systems/21

21" color two display for the Macintosh II family, resolution of 1152 X 882 X 71 Hz at 78 dpi

with DirectColor/24 Interface	$5179
with DirectColor/8 Interface	$4129
with DirectColor/GX Interface NTSC	$3479
with PrecisionColor/8 Interface	$3499

Radius Color Pivot Display Systems

15" dual orientation, anti-glare, color full page display, resolution of 640 X 870 X 75 Hz at 82 dpi

with Color Pivot-IIsi Interface	
with Color Pivot-II Interface (NuBus)	YOUR CHOICE
with Color Pivot-LC Interface	$1839
with Color Pivot-SE/30 Interface	

Radius Two Page Display Systems/21

21" monochrome, landscape, two page display, resolution of 1152 X 882 X 71 Hz at 74 dpi

with TPD-II Interface	$1569
with TPD-IIsi Interface	$1569
with TPD-SE/30 Interface	$1569
with TPD-SE Interface	$1569
with PrecisionColor/8 Interface	$1729

Radius Full Page Displays

15" monochrome portrait display

with FPD-Classic Interface	YOUR CHOICE
with FPD-SE Interface	$789

Radius Pivot Display Systems

15" monochrome, dual-orientation, full page display, resolution of 640 X 870 X75 Hz at 78 dpi

with Pivot-LC Interface	
with Pivot-SE/30 Interface	YOUR CHOICE
with Pivot-II Interface (NuBus)	$979

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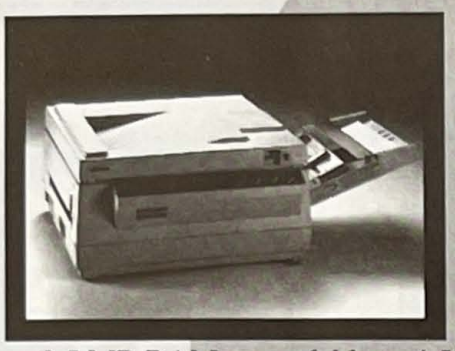
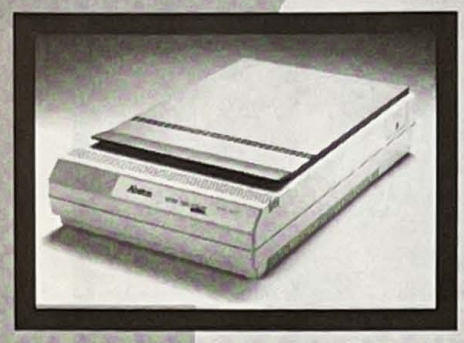


LaserScript LX

Auto-Emulation Switching

$1569

- 60% faster than LaserWriter II NTX
- 2.5 MB RAM expandable to 4.5 MB RAM
- 25 MHz processor, 35 resident fonts
- Microsoft-Bauer PostScript language interpreter
- Auto-Emulation Switching • AppleTalk Interface



Scan 300/Color Scanner

$1389 FREE Adobe Photoshop

- 300 dpi high resolution scanning
- 24-bit color & gray-scale scanner
- Built in SCSI Interface for the Apple Macintosh
- Optional Sheet Feeder for OCR • Flatbed design with removable lid
- **FULL** version of Adobe Photoshop 2.0 & DA Software
- Allows for Oversized Documents

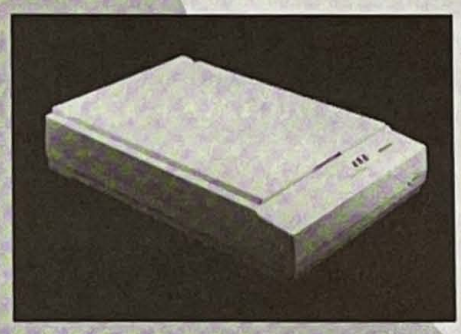
MICROTEK

300ZS Color Scanner

$875 FREE Adobe Photoshop

- 300 X 300 dpi max. resolution
- Capable of scanning 16.8 million colors
- Built in SCSI Interface for Mac only
- Optional OCR software
- **Includes Adobe Photoshop**

Limited Time!!



600ZS Color Scanner

$1479 FREE Adobe Photoshop

- Up to 600 dpi high resolution scanning
- **FULL** version of award winning Adobe Photoshop 2.0 provides advanced 24-bit color editing and color separation capabilities
- Built in SCSI Interface for Macintosh • OCR Compatible
- Capable of scanning 16.8 million colors, 256 shades of gray and black and white

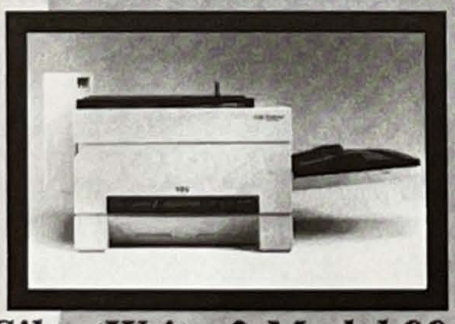
NEC

Buy any of the following NEC products and get FREE 90 Day On-Site Service

SilentWriter2 Model 90

$1549

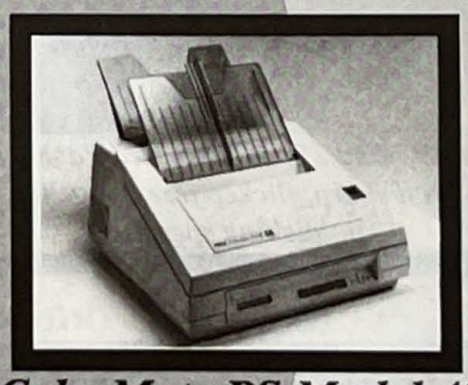
- 6 ppm •16 MHz
- Minolta Engine
- 250-Sheet Universal Paper Tray



SilentWriter2 Model 990

$2895

- 8 ppm • Canon Engine
- 32 MHz RISC Processor
- Built in SCSI Port
- Auto-Emulation Switching



ColorMate PS Model 40

$4499

- Adobe PostScript interpreter
- 300 X 300 dpi high resolution
- 1 ppm, color / 3 ppm, monochrome
- 4 MB RAM, 16.7 MHz, 17 scalable fonts
- AppleTalk Interface, Built in SCSI Port

Standard Features Model 90 and Model 990		
	• TRUE Adobe PostScript	• 35 scalable fonts
	• 300 dpi high resolution	• 2 MB RAM expandable to 4 MB
	• Includes AppleTalk Interface	

TEXAS INSTRUMENTS

microLaser PS 17

$1299

- 6 ppm • 17 Fonts
- 1.5 MB RAM
- Adobe PostScript

microLaser PS 35

$1599

- 6 ppm • 35 Fonts
- 1.5 MB RAM
- Adobe PostScript

microLaser PS 17 XL

$2525

- 17 ppm • 17 Fonts
- 1.5 MB RAM
- Adobe PostScript

microLaser PS 35 XL

$2825

- 17 ppm • 35 Fonts
- 1.5 MB RAM
- Adobe PostScript

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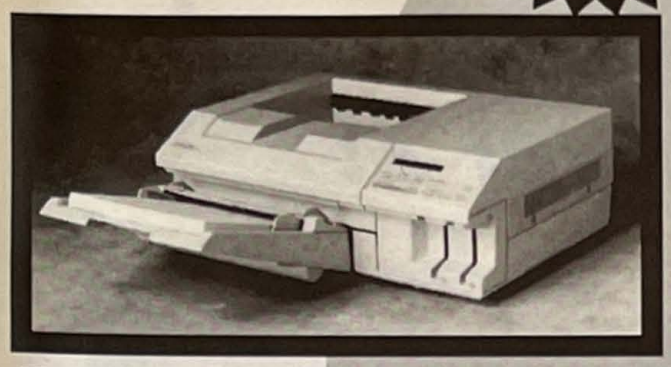
EPSON

TWO Year Warranty

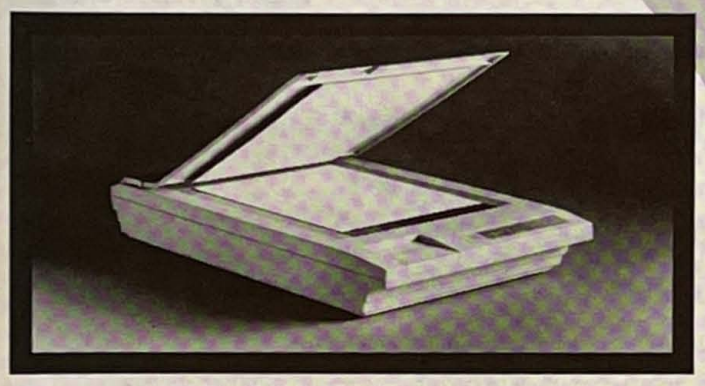


Epson EPL-7500 Laser Printer

$1995

- **TRUE** Adobe PostScript
- High-speed RISC processor
- Parallel, serial and AppleTalk interfaces standard
- HP LaserJet Series II Emulation
- 6 ppm print speed • 35 resident fonts
- 2 MB RAM standard, expandable up to 6 MB
- MicroArt Printing with 300 X 300 dpi resolution
- High-capacity, 250 sheet paper tray standard

EPSON



Epson ES-300C Scanner

$1449

- Up to 600 dpi resolution
- Macintosh/MS-DOS PC compatible
- Ideal for capturing scrap art, developing presentations, retouching and OCR.
- 24-bit color scanning that produces 16 million different colors and 8-bit monochrome scanning that produces 256 shades of gray
- Epson's TruePass scanning system uses 3 separate light bars for advanced one-pass scanning
- **Includes ColorStudio, ImageStudio and ScanDo/DA !!**

Acceleration and Memory Products . . .

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30 Day Money Back Guarantee

Mac IIci

FastCache IIci	$259
40 MHz Power Cache	$895
40 MHz Power Cache w/ 68882	$1095
50 MHz Power Cache	$1589
50 MHz Power Cache w/ 68882	$1856

Mac II, IIx, IIcx* **Mac IIcx upgrade REQUIRES motherboard modification with additional charge*

25 MHz Power Card 030	$1035
25 MHz Power Card 030 w/ 68882	$1175
33 MHz Power Card 030	$1175
33 MHz Power Card 030 w/ 68882	$1379
40 MHz Power Card 030	$1309
40 MHz Power Card 030 w/ 68882	$1519
50 MHz Power Card 030	$1795
50 MHz Power Card 030 w/ 68882	$2069

For Your Mac IIsi

• 030 Adapter Card w/FPU and Cache Module Socket	$139
• CACHE-IT! 64K Cache Simm	$315
• CACHE-IT! Bundle	$345

For Your Mac LC

• MultiColor (8/16 Bit Video Simm)	$99
• CRUNCH-IT! 68882 CoProcessor	$119
• MultiColor/CRUNCH-IT! Bundle	$189

PSI

MICRON TECHNOLOGY, INC.

1mb X 8 - 80ns Simms	$36
1mb X 8 - 80ns FX Simms	$44
1mb Mac Classic Card	$55
4mb X 8 - 80ns Simms	$179
Mac IIci Cache Card 128K	$219
JPEG Image Board	$459
SE/30 8-bit Color Card	$289
Mac II 8-bit Color Card	$289

QLS Quantum Leap Systems

Math CoProcessors for LC & IIsi

• 16 MHz with 68881	$89
• 16 MHz with 68882	$129

Tokamac Accelerators

• 68040 for LC	$2249
• 68040 for SE/30 & IIsi	$2419
• 68040 for IIci	$2579

radius

Radius Rocket for NuBus	$2295
25 MHz for SE	$849
25 MHz for SE with 68881	$915

Software and Miscellaneous Products . . .

Aldus PageMaker 4.0	$515
Aldus Persuasion 2.0	$319
Adobe Illustrator 3.0	$379
Adobe Photoshop 2.0	$569
Adobe Type Align	$65
Adobe Type Manager 2.0	$65
Adobe Type Reunion	$45
Carbon Copy Mac 2.0 (single user)	$59
Carbon Copy Mac 2.0 (multi-user)	$175
FGS FastBack II 2.5	$115
Freehand 3.0	$385
HyperCard 2.1	$139
Retrospect (single user)	$145
Retrospect (10 user Network)	$145
Retrospect Remote w/10 user Pak	$259
Microsoft Excel 3.0	$325
Microsoft Word 4.0d	$259
Norton Utilities	$85
QuarkXPress 3.0	$515
SUM II (Symantec Utilities)	$99
WordPerfect (Mac Version 2.0.1)	$279

Phonenet Compatible Connectors $14

Mice

• Kensington Turbo Mouse	$110
• Abaton Propoint Trackball	$75
• Mouse Systems Littlemouse	$69
• EMAC Silhouette Trackball	$85

Faxes and Modems (includes cables)

• Abaton 2400/9600 Interfax	$299
• DoveFax 2400/9600 Fax Modem	$295
• EMAC 2400 Modem w/MNP 5	$155
• 3C 2400/9600 Fax Modem	$189
• 3C 2400 Modem (Cables &Software)	$97

Hard Drive Accessories

• 25-50 SCSI Cable		$10
• 50-50 SCSI Cable		$10
• External Terminator		$10

Tape Backup Cassettes

• Teac CT600N	150mb	$25
• 60M DAT	1.3GIG	$20
• 90M DAT	2.0GIG	$30
• 8mm Exabyte 120 min	2.2GIG	$30

Miscellaneous Products

• Keytronic MacPro Plus Keyboard	$120
• 600mb Optical Cartridges (512)	$119
• Mac Cracker Toolkit	$19
• ATTO 64K Cache Card	$189

General Information . . .
- Visa and Mastercard accepted. No surcharge. Credit card orders are billed at time of shipment.
- Prices good for stock on hand. All prices subject to change without notice.
- University POs accepted with NET 30 terms. Corporate POs accepted upon APPROVAL.
- All shipments are FOB origin. Prices do not include freight. COD orders accepted, limit $1500.

Warranties . . .
- All items manufactured by ClubMac are returned to ClubMac for warranty repair.
- All other items are returned to their appropriate manufacturer.

Money Back Guarantee . . .
- All items manufactured by ClubMac carry a 30 day money back guarantee.
- ClubMac provides 30 day money back guarantee on all other products if manufacturer offers guarantee.
- Laser Printers, Scanners, Software, Monitors, and special order items do not carry a money back guarantee.
- All implied guarantees do not apply to price reductions. Some limitations apply.

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- Any product that is returned WITHOUT a RMA number will be refused and sent back to customer at customer's expense. Call for RMA number. Proof of purchase is REQUIRED.

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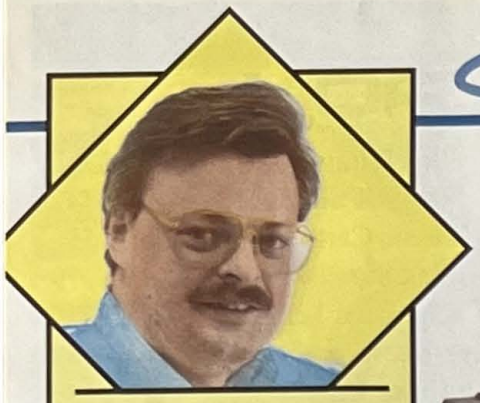
Speed, performance, and PostScript® Level 2!



"I've been in this business for six years, and I've NEVER been this excited about a printer!

PostScript® Level 2 is the next generation of Adobe's page description language. It contains a number of significant performance and print quality enhancements, and is compatible with all current applications which support the PostScript® language.

Best of all, the time-saving features of PostScript® Level 2 are available RIGHT NOW in our RealTech Laser:

• **IMPROVED MEMORY MANAGEMENT.** One pool of memory (RAM and hard drive) is available for all resource needs. Dynamically allocated and automatically reclaimed; no arbitrary memory restrictions exist. Better disk space management eliminates fragmentation and improves transfer of information from hard disk to RAM.

• **ATM FONT RENDERING TECHNOLOGY.** Raw characters are built 4 to 5 times faster.

Features available through software applications:

• **COMPRESSION.** Reduces transmission time by sending compressed files directly to the printer.

• **FORMS SUPPORT.** You can define a base form whose representation stays cached in the printer.

• **COMPOSITE FONTS.** Handles very large character sets and non-horizontal writing modes."

Réal Provencher, President
Software & Hardware That Fits

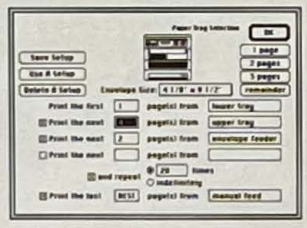
- **RISC processor**
- **9 ppm**
- **500% faster***

Versatile, with PC compatibility; its 3 interface ports can be used at the same time. Includes Appletalk® RS-422, IBM PC parallel, and RS-232-C serial interface ports (can be assigned either PostScript® or LaserJet II commands). Auto switches between interfaces, and spools files on a real-time basis. A Hewlett-Packard LaserJet Series II emulation allows use with non-PostScript® applications software.

2 Mb RAM, upgradable to 10 Mb!
The only printer of its kind with this much RAM and hard disk expansion capability. Includes a SCSI port for a hard disk. The RealTech Laser includes 35 resident PostScript® typefaces. Compact design (only 33.5 lbs.; measures 13.4"W x 14.2"D x 10.9"H).

Adobe® and PostScript® are registered trademarks of Adobe Systems Incorporated.

$1995!



Stay seated as you specify up to 4 paper changes for your printer!

Save your energy for thinking instead of switching paper in your printer trays. Print a two-page letter with letterhead from tray one and plain paper from the manual feeder. Add our optional second tray and envelope feeder, and you can specify up to 4 paper changes without moving anything but your mouse!

	RealTech Laser	QMS 810 Turbo w/HD	Apple NTX w/HD	QMS 410	TI Micro-Laser 35	Apple Pers'l LaserWriter
Street prices:	$1995	$3995	$4295	$1995	$1649	$1995

*On average, the RealTech Laser performed 4 to 5 times faster than other PostScript® laser printers in its price range.

$3995!

At last...a 400 dpi 11x17 laser printer.

- **RISC processor***
- **8 ppm (11x17)**
- **16 ppm (letter)**
- **Choice of 300 or 400 dpi**

4 Mb RAM, upgradable to 16 Mb!
Includes a SCSI port for a hard disk. The RT Laser 400 includes 35 resident PostScript® typefaces. Compact design (measures 20.25"W x 16"D x 11.75"H; weighs 80.5 lbs).

Comes with two trays and manual feed as standard features (optional bypass feeder available). PLUS, you can specify 300 or 400 dpi printing! Call for other technical specifications.

** The RealTech Laser 400 and RealTech Laser use a RISC-based controller (Reduced Instruction Set Computing). RISC is the new generation of processors for speed and performance.*

YES, we take trade-ins on all Apple LaserWriters:

- **LaserWriter: $400 trade-in**
- **LaserWriter Plus: $600 trade-in**
- **LaserWriter SC: $400 trade-in**
- **LaserWriter IINT: $1000 trade-in**
- **LaserWriter IINTX: $1350 trade-in**

Trade-in value depends on the number of pages on the engine and on any problems found with the unit. Unit must be able to run a self-test. Call for more information.

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We configure and assemble custom systems for each and every one of our customers. Our sales and technical teams stand ready to accept the challenge of designing a system to meet the specific needs of your business. When it comes to custom systems, we deliver!

$4099 Mac IIsi 14" Trinitron System, 5 Mb RAM, 105 Mb Quantum, MacPro Plus Keyboard

$5499 Mac IIci B&W 21" Dual Page System, 5 Mb RAM, 105 Mb Quantum, MacPro Plus Keyboard

$5139 Mac IIci 14" Trinitron System, 4 Mb RAM, 105 Mb Quantum, MacPro Plus Keyboard

$11,109 Mac IIfx 2 w/ 1 Floppy Drive, 8Mb RAM, 325 Mb Internal Hard Drive, Ikegami 24-bit 19" Color Monitor and Video Card, Datadesk, MacPro Plus Keyboard

If you don't like it...WE'LL BUY IT BACK!

RealTech Dual Page 21" Display **$995**

No more squinting and scrolling! Seeing two pages at once will save you hours of time. The latest in flicker free monochrome technology provides true WYSIWYG! 21" landscape display with 1152 x 870 resolution, 74 dpi. Vertical refresh rate of 75 Hz, full gray scale capability, and flat CRT (P4 phosphorus, polished screen). One year warranty.

CPU	Monitor	Price
Mac SE	Mono	$995
Mac II, IIcx, IIci IIx, IIfx, SE30	Mono GS 256	$995 $1479
Mac IIsi	Mono	$1059
Mac Portable	Mono	$1249

RealTech Full Page Display

$579

Quality, flicker free images at a price that lets you experience the convenience of large screen viewing.

15" portrait display has 870 x 640 resolution, 80 dpi. Vertical refresh rate of 74 Hz, full grayscale capability, and flat CRT, (P4 phosphorus), polished screen. One-year warranty.

CPU	Monitor	Price
Mac II, IIcx, IIci, IIx, IIfx, SE, SE/30	Mono	$579
Mac II, IIcx, IIci IIx, IIfx	GS 256	$1079
Mac IIsi, IIci	GS 16	$495
Mac Portable	Mono	$849

Ikegami 19" Trinitron Color Systems! **$2479**

Ikegami is the undisputed champ in color reproduction. Comes with an integrated tilt/swivel stand, and auto and manual degaussing. Full anti-glare coating, 75 Hz vertical refresh rate, and flicker-free images reduce eye strain and improve user comfort. Comes with a high resolution 1024 x 768 video card. The right solution for every budget!

System	Colors	Price
Entry Level	256	$2479
Professional	256	$2849
Master's	16 million	$3195

Microtek 600 DPI Scanner

Scanmaker 600ZS Color Scanner includes Adobe Photoshop – full version, with 24-bit color editing and color separation capabilities.

High-resolution color scanner capable of scanning 16 million colors at up to 600 dots per inch. Outstanding image quality in a compact, flatbed design.

- 16.8 million colors
- 3 scanning passes (red, green and blue filters)
- 14 brightness settings for each color plane
- Scanning speed 150 seconds

Only $1439!

$2095

Microtek Scanmaker Slide Scanner.

The affordable 35mm color slide scanner. Scan landscape or portrait slides at 1850 dpi. Captures 24-bit color and 8-bit grayscale. Bundled with PhotoShop, you'll be able to produce 4-color separations from your color slides. A great scanner at a great price!

Seiko/24-Bit Bundle **$979**

High-resolution Trinitron tube...view 16 million shades of color! 640 x 480 resolution, 72 dpi. 14" display has integrated tilt & swivel base. Includes RasterOps 24S Video Card. ***43% brighter than the leading competitor!***

TI microLaser™ PS17 Adobe PostScript printer...

...now only $1249!

300 dpi with HP LaserJet Series II emulation standard. Optional accessories: 2nd paper tray and envelope feeder. ***Includes 1.5 Mb RAM, Adobe PostScript, and AppleTalk® interface.*** **We're the only authorized mail order company in America that offers on-site and extended warranties for this printer. Plus...we sell accessories and consumables at the best prices in the country!**

RasterOps 24XLi Color System **$5649**

The latest in 24-bit technology. Includes full on-board acceleration, 16.8 million colors, 72 dpi, 75 Hz refresh rate.

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ACCELERATORS:

Your Performance Edge.

PowerCache 40 and 50

Available now for Mac II, Mac IIx, Mac IIcx, Mac IIci, and Mac IIsi...and all at one low price!

Top performance in one easy upgrade from DayStar, the leader in accelerators for Macintosh. Priced much less than previous upgrades. Easy to install.

	without 68882	with 68882
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PowerCache 50	**$1499**	**$1749**

LT200 PC	169
FastCache IIci, IIsi	249
RAM Powercard	649
SCSI Powercard	979

As your authorized DayStar source, we offer a one year warranty and toll-free support.

Ask about our no-hassle upgrade program for the Mac IIcx.

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MicroNet Technology, Inc.

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ImagePak Still Compression	335
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14" Trinitron 24-bit	979
19" Trinitron 8L	3345
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Infinity Turbo 88	999
Quick SCSI	299

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Electrostatic 12 x 18	1189
Standard 12 x 12	779
Standard 12 x 18	1249
Standard 6 x 9	549

Choice of stylus or 4-button cursor. CALL FOR OTHER SIZES AND TYPES.

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Zoom V.42 bis	179
Zoom 9600 V.32/V.42 bis	449

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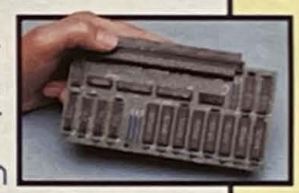
QuadraLink	195
Cache-In (IIci Cache Card)	185
Cahce-In 50 w/68882	1819
Quick Silver	229
Trans Warp SE 68030-40MHz w/40MHz 68882	1429

Introducing 3 new per-formance enhancements for Macintosh.

Real Tech



CACHE CARDS, ETC.

"...cache cards are simple, efficient, cost-effective enhancements for an already speedy Mac."

— MacUser, June 1991

IIci Cache Card	**$169**
IIsi Cache Card	**$169**
IISI Adapter	**$59**
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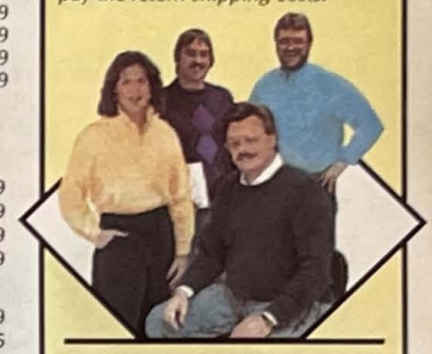
- **Backed by a ONE-YEAR WARRANTY** with an optional two-year add-on.
- **Backed by our famous guarantee and return shipping policy.** *If you're not satisfied with any RealTech product, call us. We'll refund your purchase price (minus consumables) . . . and we'll even pay the return shipping costs.*



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Asanté continues to lead the pack with quality Ethernet products at affordable prices...if you don't know whether you need 16 or 64K call us; we'll tell you!

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64K Cards (all machines)	289

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GatorBox	2015
GatorPrint	399

CABLING

Hypernet Din 8 Connectors	27
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FARALLON

Star Connector	17
Star Connector EN	131
Star Controller	865
Star Controller EN	1709

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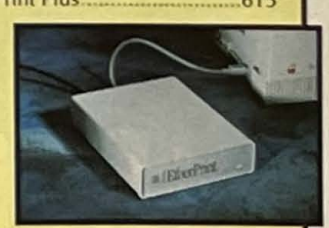
DaynaPORT	275
DaynaPORT w/FP	375
EtherPrint	340
EtherPrint Plus	615



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Netbridge	445
NetModem 9600 v.32	1249
NetModem v.2400	369
Netserial	295

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TechWorks™ memory products are the world's best. Each is designed, engineered, and built by bizarre, monomaniacal perfectionists in a controlled environment at our own facility. And we're one of the few major companies building the more reliable surface mount design. Because of this, we can warranty each part for life, price them far below comparable products, and offer toll-free access to our technoids for knowledgeable technical support or science fiction trivia. So call toll-free for today's prices and take your Mac® to the max for System 7.0. Lifetime warranty, 30-day money-back guarantee, free installation kit, and toll-free support service are included. Corporate PO's accepted, all major credit cards honored, plus overnight delivery and volume discounts are available. Facsimile orders: 512-794-8520. Technical Support: 800-933-6113. Business line: 512-794-8533.

Easily-installed surface mount memory modules available ▶
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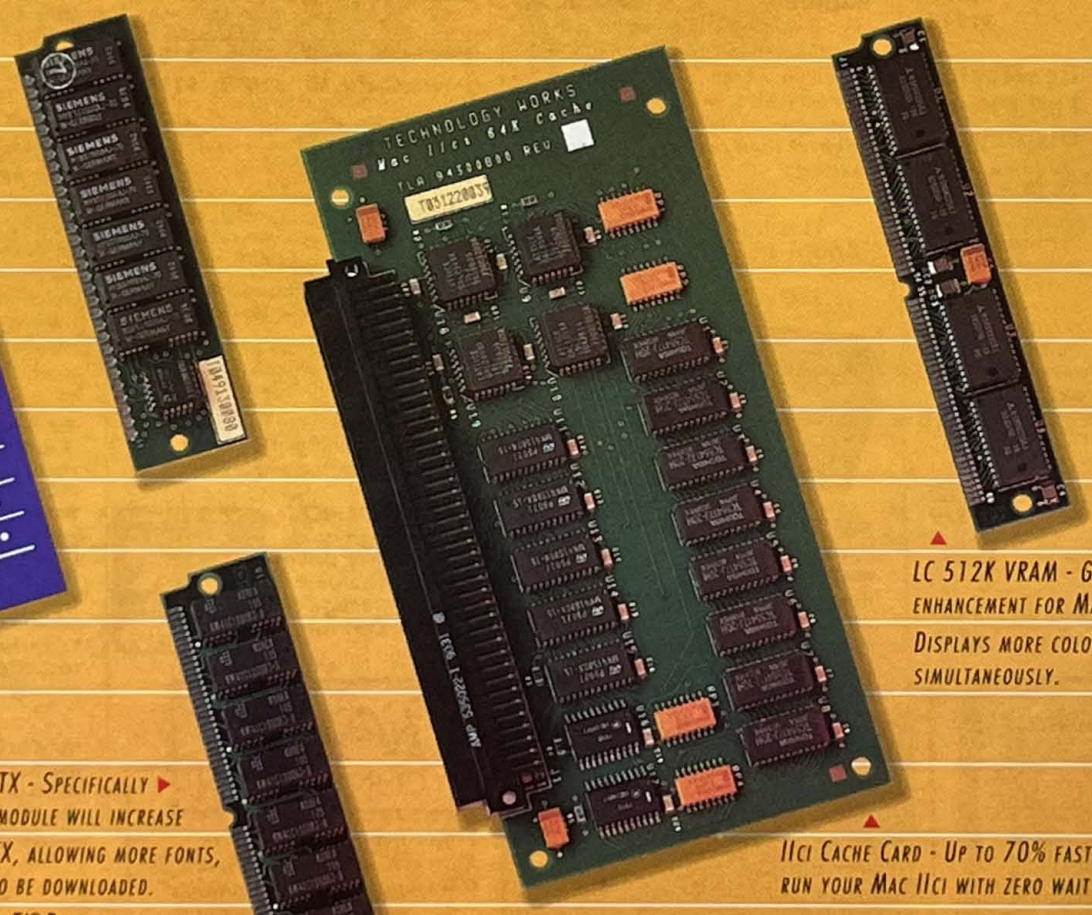
MODEL	SIMM SIZES AVAILABLE 1 MB	2MB	4MB	8MB
Macintosh Plus	•	•		•
Macintosh SE	•	•		•
Macintosh SE/30	•	•		•
Macintosh II	•	•		•
Macintosh IIx	•	•		•
Macintosh IIcx	•	•		•
Macintosh IIci	•	•		•
Macintosh Classic	•	•		•
Macintosh LC	•	•		•
Macintosh IIsi	•	•		•
Macintosh IIfx	•	•		•
Macintosh Portable	•	•	•	•



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LaserWriter® IINTX - Specifically ▶
designed memory module will increase throughput on NTX, allowing more fonts, documents, etc. to be downloaded.
Also available for TI® Printer.

LC 512K VRAM - Graphic enhancement for Mac LC. Displays more colors simultaneously.

IIci Cache Card - Up to 70% faster, run your Mac IIci with zero wait states.

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LCFPU 16MHz—$119

Speed up math calculations on your LC. Up to 40MHz available. Call for pricing.

IIsi 64K CacheCard $199

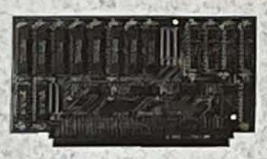
40% performance increase.

IIsi 030 Adaptor—$59

Faster than Apple's NuBus adaptor—runs at 20MHz, not 10MHz.

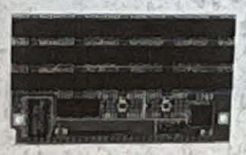
IIsi 20MHz FPU—$75

(Requires slot adaptor.)



IIci 64K Cache Card $159

40% performance increase. Industry standard 64K!



8 & 16Mb SIMMs

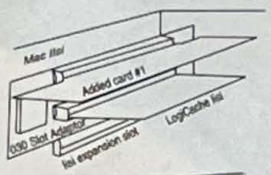
For memory intensive applications like Photoshop. For IIci, IIsi, IIfx. Call for pricing.

Breathe a sigh of relief. Our drives come with a 2 or 5 year factory warranty.

*To minimize hard drive failure, we use only high quality mechanisms that come with extended warranties. Our Quantum drives come with a two year revolving warranty. Micropolis drives are covered by a 5 year factory warranty. Since time is money, we'll do our best to get your system up within hours. If you experience a drive failure within the first year, we can replace your drive with an identical one within 24 to 48 hours.**

Make your IIsi faster than a stock IIci with LogiCache IIsi.

Introducing Logica's Triple Crown for the IIsi. 64K Cache. 68882. '030 Slot Adaptor. Performance. Math Speed. Expandability.



Enhance your IIsi three ways. Use our 64K Cache card for 40% improved performance. The '030 adaptor lets you use two expansion cards, as shown . The adaptor can be used with or without the 68882 math coprocessor (FPU) for faster math calculations. Buy them all at once, or one at time as your needs grow.

IIsi Cache Card	$199
IIsi 030 Slot Adaptor	59
IIsi FPU	75

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Teac CT600H (60mb)	$17
Teac CT600N (150mb)	24
SyQuest SQ400 (44mb)	70
SyQuest 800 (88mb)	149
4mm DAT Tape, 60 meter	19
Optical Cart (ISO) 512/1024	149

The most affordable DATadrive™ on the market,—$1495.

Quietest and fastest drives.

For performance, noise level, price and speed, our drives are your best all-around choice. Macworld, *in two separate surveys, has rated our drives fastest **, quietest *** and our manuals some of the best.**** Finally, they like our solid track record.*

Internal & External Disk Drives

	Internal	External
40* *Special Offer!*	$199	$289
52L*	270	360
105L*	420	510
170	660	750
210	750	840
320	1250	1340
425	1810	1900
650	1640	1740
1000	2350	2450
1350	3190	3290

**Low power internal drives that meet Classic, IIsi and LC power specifications. Premium enclosure with universal power supply available. All drives pictured are in premium enclosures.*

XAPSHOT.

The quickest way to bring 24-bit images to your Mac.

Take a look at the new XAPSHOT still video camera from Canon. *XAPSHOT allows you to import high quality still video images to your Mac using a frame grabber. It stores up to 50 images on 2" diskettes and can be connected to your TV for previewing. Great for video, slide graphics and print work. Demo Diskette shipped overnight for only $10.*

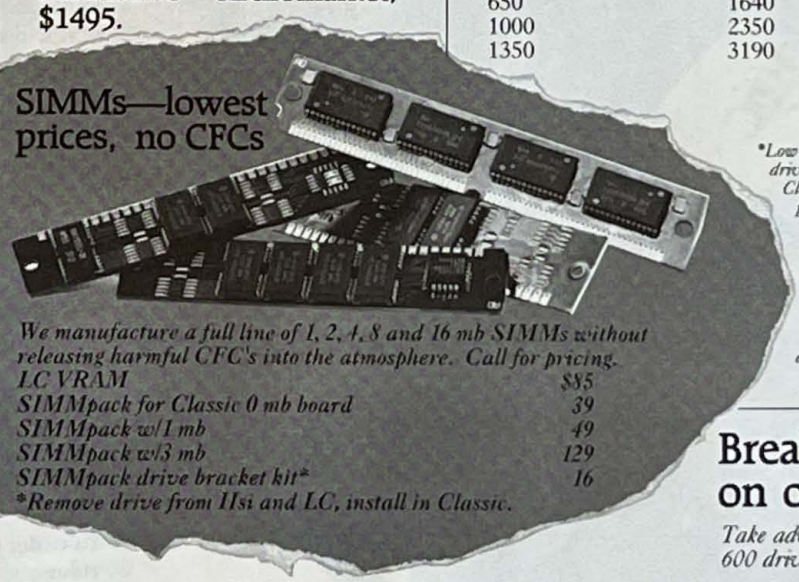
XAPSHOT	$429
XAPSHOT Bundle w/24-bit frame grabber	$749
2" video diskette	$10

Radius Products

Radius Rocket	$2495
Direct Color/GX NTSC	590
Radius Color Pivot	1425
Color Pivot Interface	575
Radius 19" 24 bit Color System	**4750**
Radius Accelerators	Call
RasterOps Products	
364 Frame Grabber	$695
24S-24Si-264 SE30	559/769/649
8L-24L Systems	Call
SuperMac Video Systems	Call
Seiko Trinitron 14"	589
Seiko ColorPoint Printers	Call
DayStar Powercards	Call
Microtek 600ZS Color Scanner	1599
Ethernet Cards	Call

The Other Drives
SyQuest, Tape, DAT, Optical

45SR SyQuest, one cart	$475
45DR SyQuest, two carts	990
88SR SyQuest, one cart	1149
88DR Dual SyQuest, two carts	2249
150t Teac Tape Backup	595
DATadrive™ 2.0 DAT Backup	**1495**
OptiDisk™ 600 Sony Optical Drive	**2995**
OptiDisk™ 1000 Tahiti Optical Drive	3800



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LC VRAM	*$85*
SIMMpack for Classic 0 mb board	*39*
SIMMpack w/1 mb	*49*
SIMMpack w/3 mb	*129*
*SIMMpack drive bracket kit**	*16*

**Remove drive from IIsi and LC, install in Classic.*

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*Cross shipment is subject to product availability and cross shipment guidelines. **Highest SCSI Evaluator Read/Write of any drive tested, September '91 *MacWorld* review. ***"Quietest drives tested"—March '91, *Macworld* review ****September '91, *Macworld* review.

1 MB SIMMs from MacProducts USA

Macintosh Memory

1MB SIMMs 70, 80, 120ns starting at.....$29
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4MB SIMMs, lifetime warranty $159
16MB SIMMs, lifetime warranty $899

Macintosh Printer Memory

TI microLaser 1MB RAM.....$75
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$29

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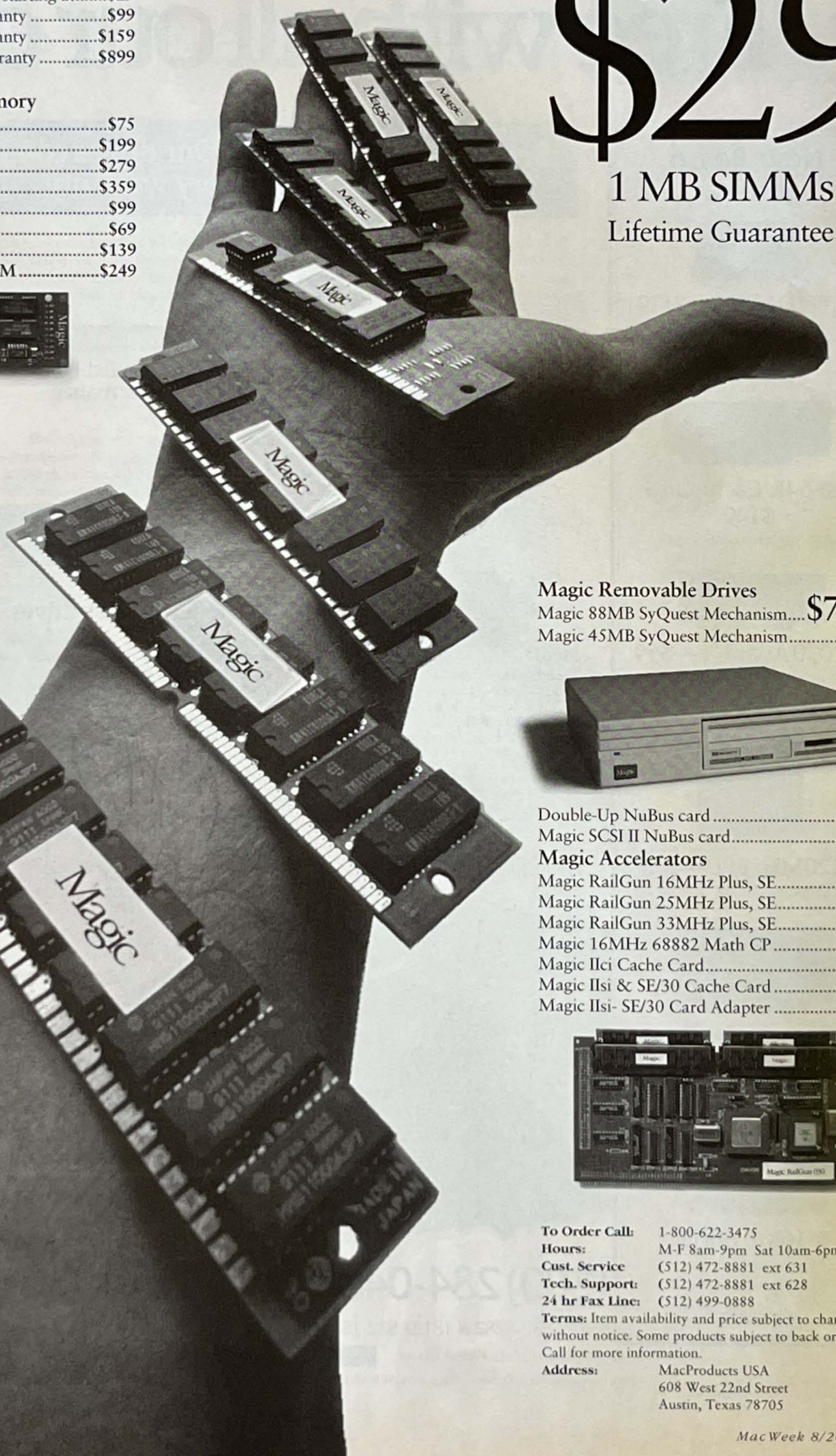

Magic Removable Drives

Magic 88MB SyQuest Mechanism....$799
Magic 45MB SyQuest Mechanism.....$449

Double-Up NuBus card $169
Magic SCSI II NuBus card.....$899

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Magic RailGun 33MHz Plus, SE.....$999
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- 200,000 Hours MTBF
- 9ms access time!
- Incredibly Fast & Reliable!
- Perfect Internal for all Macs!*

- All 3.5" Drives are available in zero footprint (including a 40watt power supply, and dual AC outlets), or micro cabinets as well as internal for all Mac's.
- All 5.25" Drives are available in zero footprint external (including a 65 watt power supply, cables, and ext. terminators) or asinternals for the Mac II, IIx, and IIfx.

Fujitsu 3.5" Drives

		Internal	External
45 MB	3.5" Low Profile/Low Power3yr warr, 50,000MTBF	$238	$298
90 MB	3.5"3yr warr, 50,000 MTBF	$338	$398
135 MB	3.5"3yr warr, 50,000 MTBF	$418	$498
185 MB	3.5"3yr warr, 50,000 MTBF	$548	$598
330MB	3.5" 5 yr warr., 200,000 MTBf*, 9ms Access	$1548	$1598
425MB	3.5" 5 yr warr., 200,000 MTBf* 9ms Access	$1648	$1698
520MB	3.5" 5 yr warr., 200,000 MTBf* 9ms Access	$1748	$1798

* Mean Time Between Failure is the average life expectancy of a drive.(In case of a 200,000 MBTF, this means a potential of **24 years** of 40 hour weeks, 52 weeks per year!)

Fujitsu 5.25" Drives

5 Year Warranty! 200,000 Hours MTBF!*

		Internal	External
357 MB	5.25" Full Hght 16ms	$1198	$1248
680 MB	5.25" Full Hght 16ms	$1498	$1598
1.2 Gig	5.25" Full Hght 14ms	$2498	$2598

* Mean Time Between Failure is the average life expectancy of a drive. 24 hour factory replacement available for 5.25"drives for additional fee.

Archive DAT Tape Backup

2.2 Gig Capability $1498

- Up to 10 mb per minute backup time
- Includes SoftBackup II for Fast network and unattended backup capabilities

SyQuest! 44MB & 88MB Removables

44MB REMOVABLE $448.00
88MB REMOVABLE $848.00

- 19ms Access time
- Both Drives include Cartridge
- Dual AC Outlets, 40Watt power supply
- SCSI Select and 2 Year Warranty

Ricoh Optical

600 MB Optical $2698

- Read/write reliable storage
- 66ms Access Time
- Great for archiving, color scans etc.

Fujitsu 1.2 Gig Drive

	Internal	External
1.2 Gig H/D	$2498	$2598

- 11.5 M.S. access time / 4.8 mbs transfer rate
- 200,000 hours mean time between failure
- 5 year warranty
- Incredibly fast! **MacWorlds Fastest 1.2Gig!**

JX-9500PS Sharp Printer 35 Fonts

JX-9500PS 35Fonts $1648.00

- 2.5 m.b Ram Memory
- MacUser #1 printer 4.5 mice rating
- 35 Fonts, 6 page per minute
- Letter, legal and transperancies
- Includes Appletalk interface!
- Sharp is the manufacturer of the TI Microlaser, this is the same printer!

800 K Mac Floppy Drive $99

These Fujitsu External floppy drives have a one year warranty. Completely compatible.
These are brand new slimline drives and they look great!
These drives retail for $259!

Fujitsu 800k 99.00!

Quantum Drives/Wren Drives

	Internal	External
Q 52MB 3.5" LPS	$278	$348
Q 105MB 3.5"LPS	$448	$498
Q 120MB 3.5"	$598	$658
Q 170MB 3.5"	$688	$758
Q 210MB 3.5"	$778	$848
Wren 337 MB RUNNER	$1398	$1498
Wren 600MB F/H	$1598	$1698
Wren 630MB RUNNER II	$2998	$2098
Wren 1.2 Gig	$2298	$2398

19" Color Moniters!

19" Ikegami Color System	8 Bit	$1098
DM-2060	24Bit	$2098
19" Trinitron Color System	8 Bit	$2398
Ikegami CT-20	24Bit	$3198
19" Sony Color System	8 Bit	$2398
Sony GDM 1954	24Bit	$3198

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Buy any Apple system and a monitor from Mac and More and we'll give you a modem. But supplies are limited so place your order while they are still in stock!!!

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Macintosh Classic 2/40	$1275.00
Macintosh Classic 2/52	$1299.00
Macintosh LC 2/40	$1779.00
Macintosh LC 4/105 w/ 512K VRAM	$2299.00
Macintosh IIsi 3/40	$2575.00
Macintosh IIsi 5/120	$3175.00
Macintosh IIci 5/0	$3499.00
Macintosh IIci 5/105	$3899.00
Macintosh IIfx 4/0	$4879.00
Macintosh IIfx 8/213	$5779.00
Macintosh SE/30 2/40	$2299.00
Macintosh IIsi NuBus Adapter Card	$199.00
Macintosh IIsi 030 Direct Slot Card	$199.00
Apple IIe Card for Macintosh LC	$149.00
PSI Crunch-It! math chip for Mac LC	$129.00
Apple Extended Keyboard	$160.00
Apple Standard Keyboard	$90.00
MacPro Plus Extended Keyboard	$124.00

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Mac LC Student Package — $2659
4 Mb of RAM, 40 Mb internal hard disk, Mouse, Microphone, Keyboard, Apple 12" RGB monitor and StyleWriter printer.

Mac IIsi Office Package — $4999
5 Mb of RAM, 120 Mb internal hard disk, 40 Mb ETC External SCSI hard disk, mouse, microphone, Apple standard keyboard, Apple 13" RGB monitor, and Personal LaserWriter LS.

Mac IIci Power Package — $5399
5 Mb of RAM, 340 Mb internal hard disk, Apple extended keyboard, Mouse and an Apple 13" RGB Color monitor.

Printers and More...

If you need it in print, the collection of printers we have to offer can't be beat in perfomance or price!

QuickDraw	
Apple ImageWriter II	$429.00
HP DeskWriter w/AppleTalk Interface	$525.00
GCC PLP II & IIS	Call
TrueType	
Apple StyleWriter	$439.00
Apple Personal LaserWriter LS	$929.00
Microtek TrueLaser	$1795.00
First TrueType and Postscript compatible printer	
PostScript	
Apple Personal LaserWriter NT	$1799.00
Apple LaserWriter II NT	$2729.00
Apple LaserWriter II NTX	$3399.00
Epson EPL-7500 with RISC processor	$1949.00
GCC BLP Elite	Call
TI MicroLaser PS17 w/AppleTalk	$1299.00
TI MicroLaser PS35 w/AppleTalk	$1680.00
NEC SilentWriter 2 Model 90	$1649.00
QMS PS-410	$1995.00

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Quantum, Maxtor and Connor drives are three of the best on the market. They are fast and reliable. All ETC internal drives come with brackets, cables and software.

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ETC 105 Mb Quantum LPS, 11 msec	$399.00
ETC 120 Mb Connor-1", 19 msec	$439.00
ETC 130 Mb Maxtor Cheyenne, 15 msec	$429.00
ETC 170 Mb Quantum PRO, 11 msec	$599.00
ETC 210 Mb Quantum PRO, 11 msec	$699.00
ETC 213 Mb Maxtor LXT, 15 msec	$649.00
ETC 340 Mb Maxtor LXT, 13 msec	$999.00

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ETC's external drives come in a zero-footprint half-height cases with a Universal power supply, power outlets, push button SCSI addresses, cables, and formatting software.

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ETC 105 Mb Quantum LPS, 11 msec	$449.00
ETC 170 Mb Quantum PRO, 11 msec	$679.00
ETC 210 Mb Quantum PRO, 11 msec	$769.00
ETC 213 Mb Maxtor LXT, 15 msec	$699.00
ETC 340 Mb Maxtor LXT, 13 msec	$1099.00

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If you need lots of on-line storage, ETC's line with the Seagate/Imprimis WREN drives are the best value on the market. With a 5 1/4-inch form factor, the ETC Internal drives can be use in the Mac II, IIcx, and IIfx.

Internal	
ETC 307 Mb WREN-4, 14 msec	$1179.00
ETC 337 Mb WREN-Runner-1, 10.7 ms	$1299.00
ETC 676 Mb WREN-5, 16.5 msec	$1479.00
ETC 676 Mb WREN-Runner-2, 12 ms	$1799.00
ETC 1.05 Gig WREN-7, 15msec	$2299.00
External	
ETC 307 Mb WREN-4, 14 msec	$1275.00
ETC 337 Mb WREN-Runner-1, 10.7 ms	$1399.00
ETC 676 Mb WREN-5, 16.5 msec	$1579.00
ETC 676 Mb WREN-Runner-2, 12 ms	$1899.00
ETC 1.05 Gig WREN-7, 15msec	$2329.00

Removables and More...

If you and your data are always on the move, don't shut-down or backup without one of these.

ETC 45R SyQuest Removable — $439
New low price includes one cartridge

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Now Shipping! Includes one cartridge

ETC 45DR Dual SyQuest — $829
Two removable drives in one box. Includes one cartridge! The ETC 88DR Dual SyQuest Drive is also available for $1299.00

45 Mb Syquest Removable Cartridge	$63.00
88 Mb Syquest Removable Cartridge	$129.00

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If you need networking solutions today, we can provide you with everything from connectors and cables, to routers, Ethernet interface cards. Call us and we'll help you build your network at a price you can afford.

Phone network adapters	$19.00
AppleShare File Server Software 2.0	$599.00
NEW! Asanté MacCon+ 30iE/Radius	Call
Asanté MacCon+ LC E&T	$249.00
Cabletron MR5000C Repeater	$2389.00
EtherNet Thick and Thin	
Macintosh II EtherTalk NB Card	$499.00
Asanté MacCon+ IIE or 30iE	$249.00
Asanté MacCon+ IIE64 or 30iE64	$289.00
EtherNet Thick and 10BaseT	
Asanté MacCon+ IIET or 30iET	$249.00
Asanté MacCon+ IIET64 w/ 64 K RAM	$289.00
Asanté MacCon+ 30iET64 w/64 K RAM	$289.00

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Apple 13" RGB Monitor	$669.00
Apple 15" Portrait Monitor	$769.00
Apple Two Page Monitor	$1199.00
Seiko 14" Trinitron RGB	$619.00
Macintosh Display Card 4•8	$439.00
Macintosh Display Card 8•24	$545.00
Macintosh Display Card 8•24 GC	$1349.00
512K VRAM Upgrade for Mac LC	$99.00

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If you need to see more than 640x480, here are some of the most innovative video solutions around.

RasterOps

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RasterOps 8L Trinitron System	$3999.00
RasterOps 24L Hitachi System	$4579.00
RasterOps 24L Trinitron System	$5269.00
CorrectColor Calibrator	$1929.00
ClearVue/GS 19" Gray Scale System	$1414.00
ClearVue/II 19" Monochrome System	$1160.00
Mac LC and Classic Systems	
RasterOps 8LC 19" Hitachi System	$3314.00
ClearVue/LC 19" Monochrome System	$1160.00
ClearVue/Classic 19" Mono System	$1160.00
Mac Display Boards	
RasterOps 24si Display Board	$579.00
RasterOps 264/SE30 Display Board	$579.00
RasterOps 8L Display Board	$1279.00
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Radius

Pivot Displays	
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Pivot Display for IIsi and IIci	$779.00
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DirectColor/8 with Color Display/19	$4085.00
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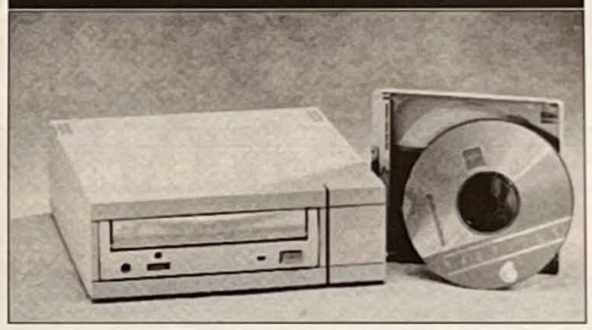

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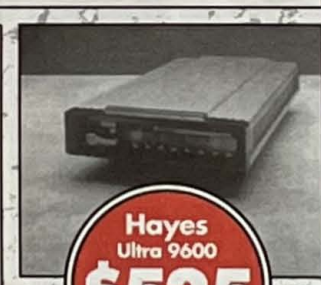

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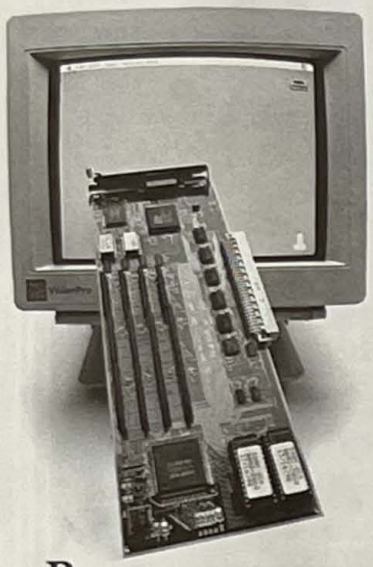

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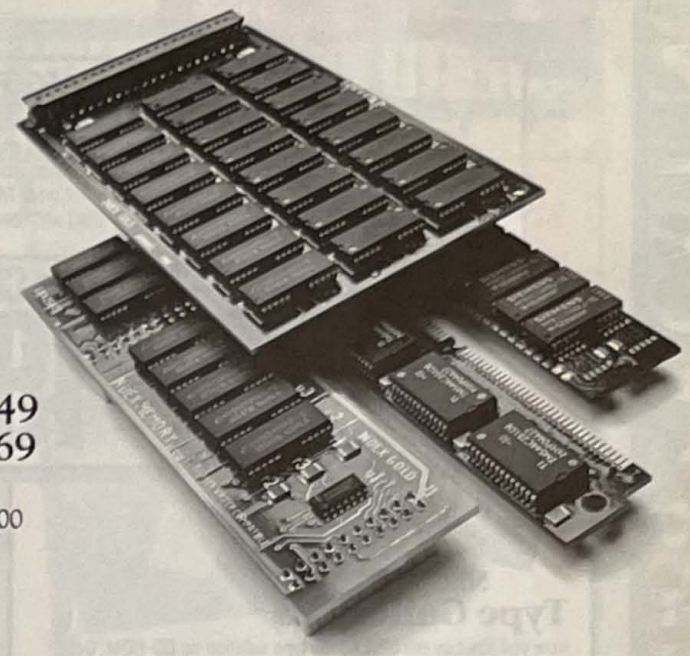

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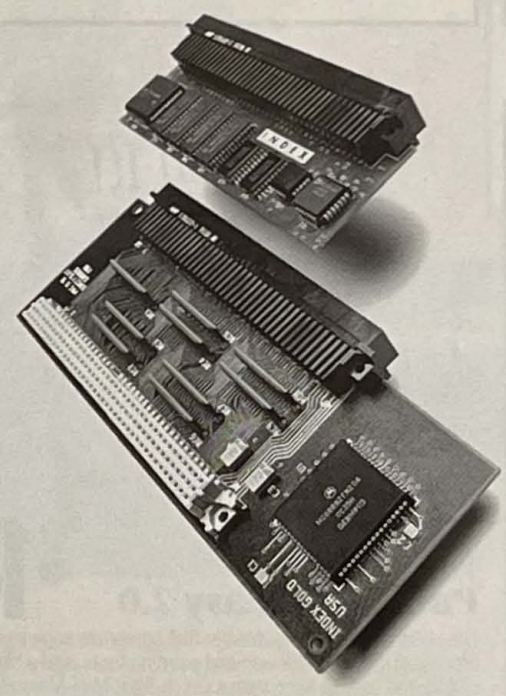

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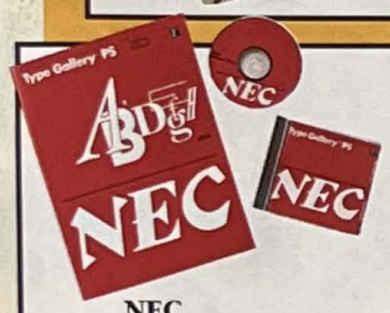

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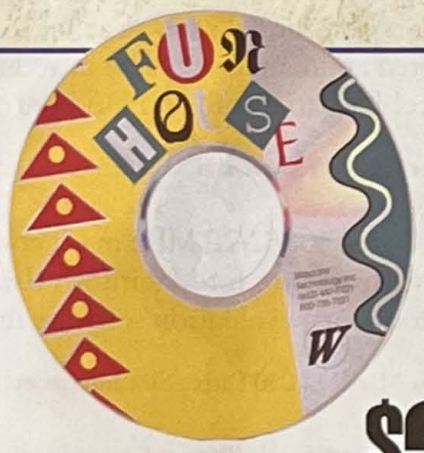

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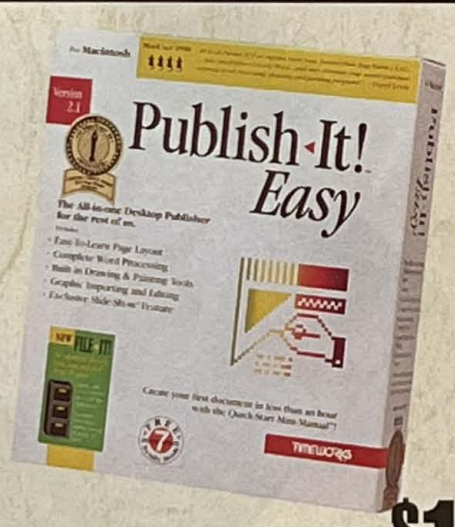

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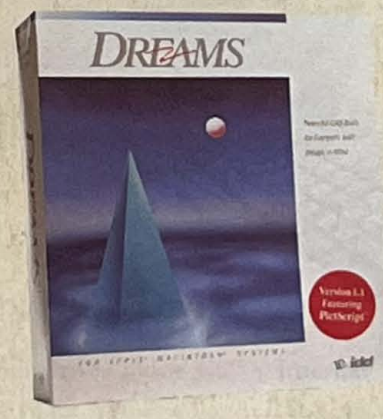

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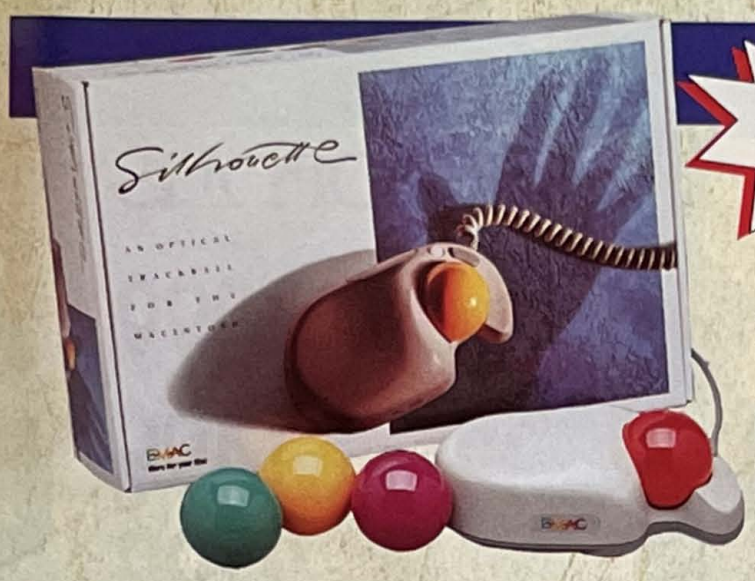

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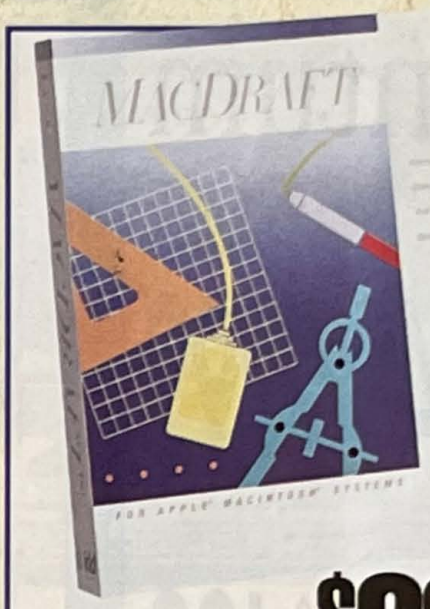

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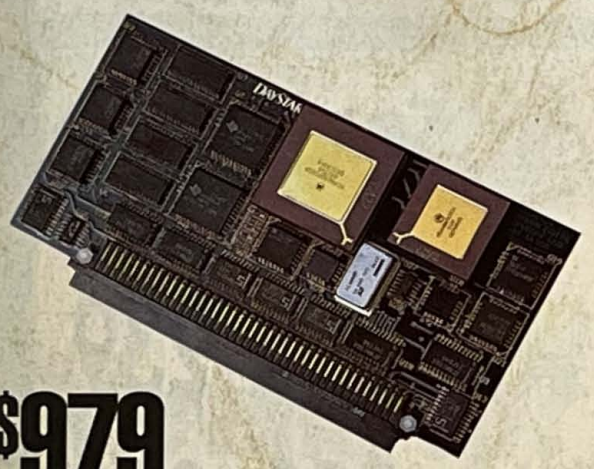

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Oct 1	Graphic boards, **Seybold issue!**	GA Extra	Sept 19	Sept 17
Oct 8	Printers		Sept 26	Sept 24
Oct 15	Networking		Oct 3	Oct 1
Oct 22	Presentations,	SAVE (storage)	Oct 10	Oct 8
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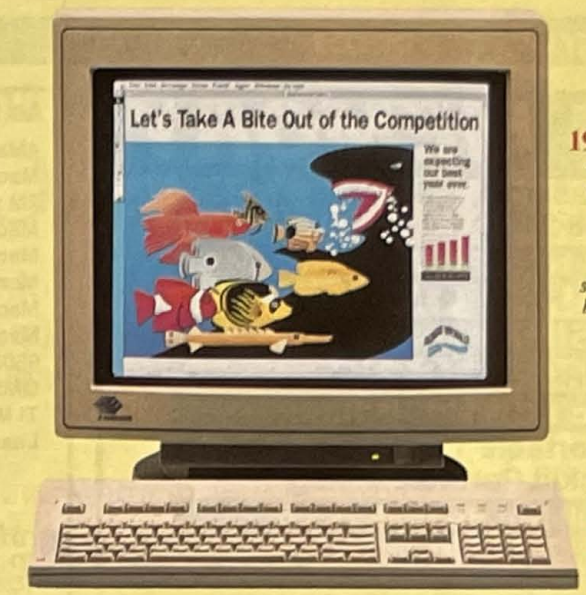

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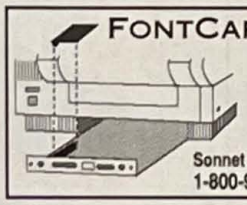

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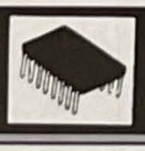

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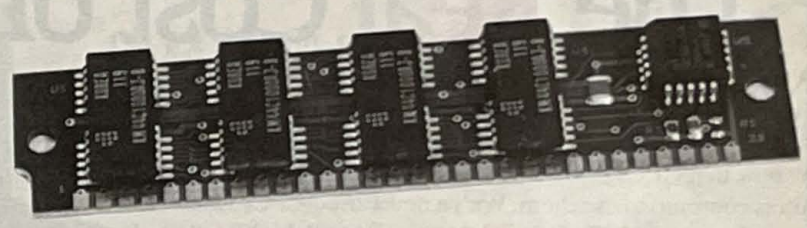

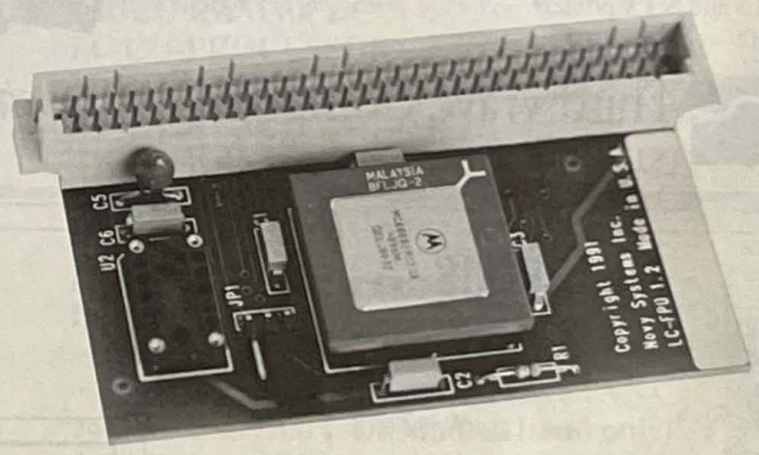

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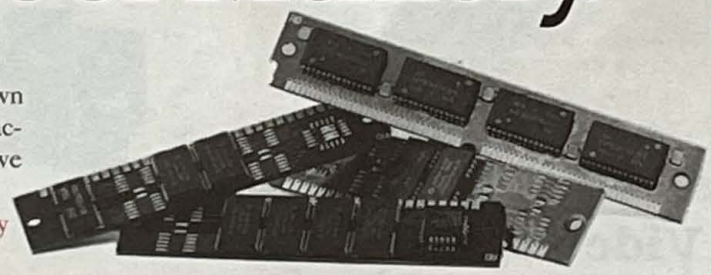

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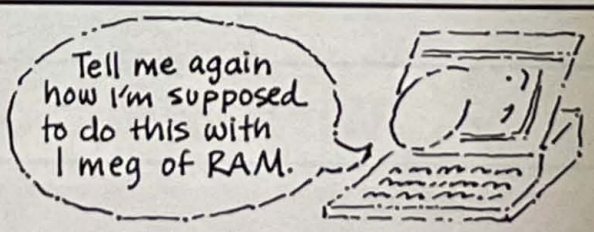

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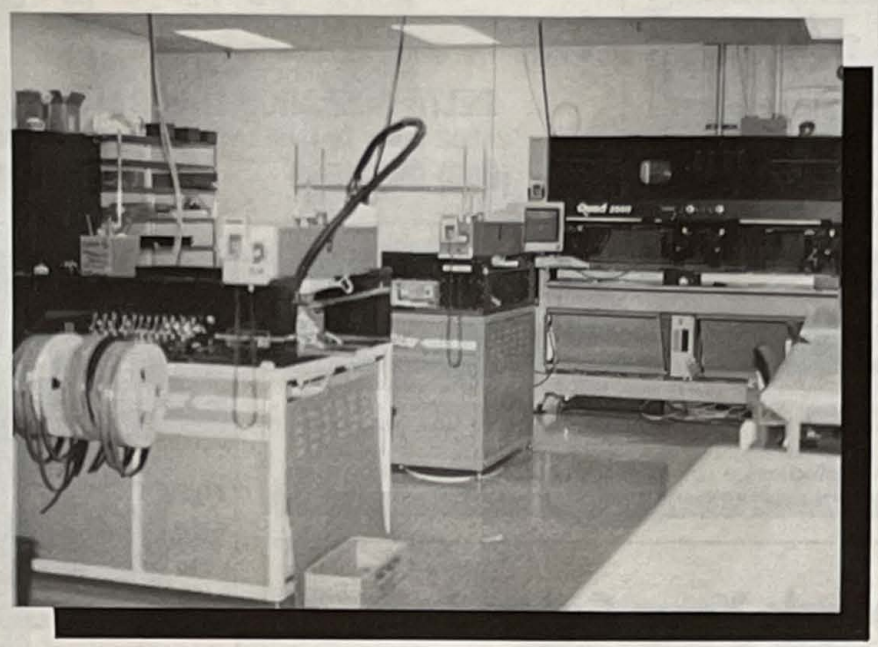

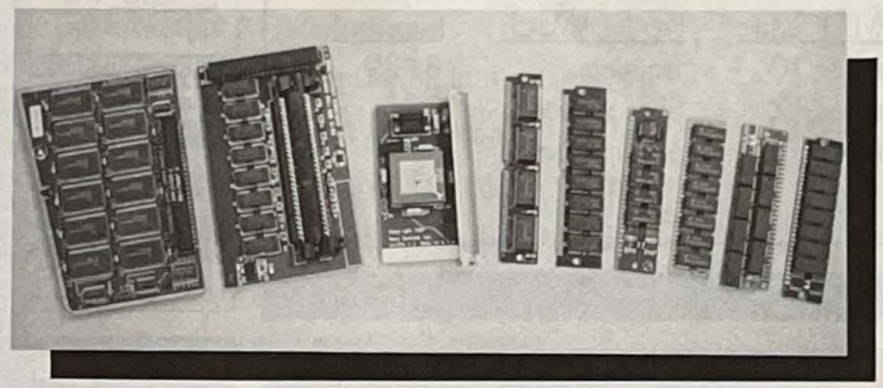

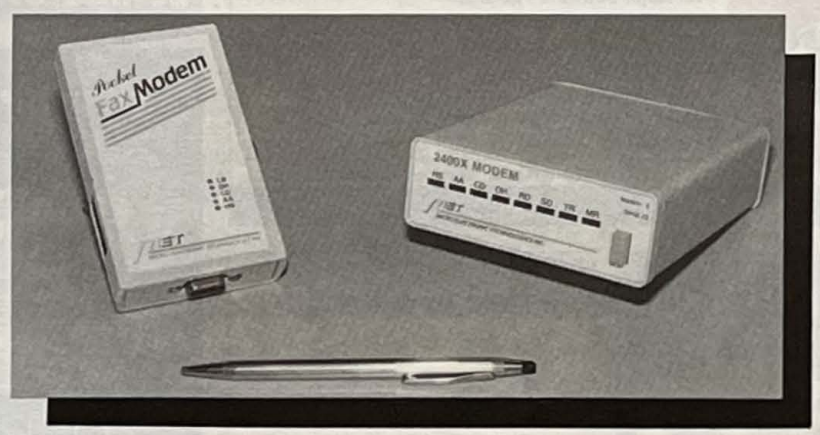

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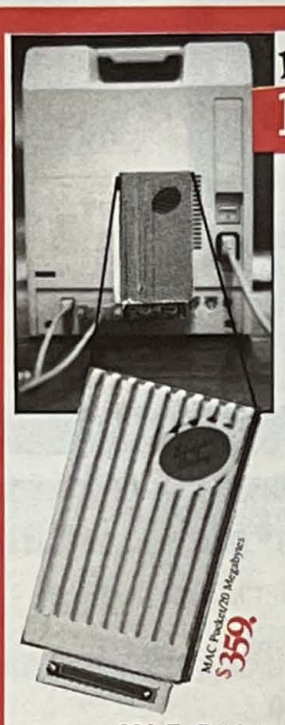

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MODEL	CAPACITY	ACCESS	INTERNAL	EXTERNAL
LPS	52 mb	12ms	$249	$319
LPS	105 mb	10ms	$379	$449
LPS/C	105 mb	25ms	$379	$449
PRO	170 mb	12ms	$599	$669
PRO	210 mb	12ms	$659	$729

PRO Drives are 3.5" Half Height
LPS Drives are 3.5" 1/3 Height
LPS/C Drives are Low Power for Classic

All QUANTUM Drives have a TWO Year Warranty

SEAGATE

MODEL	CAPACITY	ACCESS	INTERNAL	EXTERNAL
385M*	337 mb	11ms	$1379	$1529
767M*	676 mb	12ms	$1849	$1999
702M	613 mb	16ms	$1449	$1599
766M	676 mb	15ms	$1525	$1675
1200M	1.0 gb	15ms	$2249	$2399

Seagate Drives are 5.25" Full Height
• Runner & Runner II Drives

All SEAGATE Drives have a ONEYear Warranty

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MODEL	CAPACITY	ACCESS	INTERNAL	EXTERNAL
7080 *	80 mb	17ms	$299	$369
213S	207 mb	15ms	$709	$789
8380S	345 mb	13ms	$1189	$1289
8702S	613 mb	16ms	$1499	$1649
8760S	645 mb	16ms	$1649	$1799
1200S	1.0 gb	13ms	$2449	$2599

Drives are Full Height 5 1/4"
• 3.5" 1/3 Height Drive

All MAXTOR Drives have a TWO Year Warranty

CONNER

MODEL	CAPACITY	ACCESS	INTERNAL	EXTERNAL
3040 *	40 mb	25ms	$239	$309
30100 *	120 mb	19ms	$399	$469
3100	100 mb	25ms	$379	$449
3200	200 mb	15ms	$679	$749

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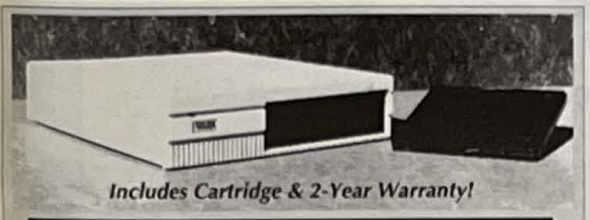

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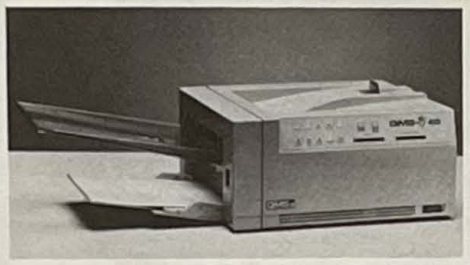

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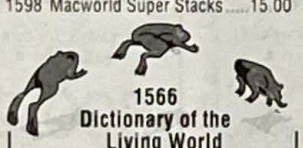

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06. Government
08. Manufacturing
09. Education
10. Finance: Banking, Accounting, Insurance, Real Estate
11. Health, Medical, Legal
12. Non-Computer Retailer, Wholesaler, Distributor
13. Agriculture, Mining, Construction, Oil, Transportation, Utilities

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20. VAR/VAD
21. Retailer/Distributor
22. Systems House/Data Processing Service
23. Manufacturer (Computers, Software, Peripherals)
24. Computer Consultant
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C. General Manager/Director
D. Micro Manager/Specialist/Coordinator
E. Project Manager
F. Art Director/Graphic Designer/ /Artist/Illustrator
G. Manager/Supervisor (not listed above)
H. Architect/Engineer
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B. Research & Development
C. Communications/Publishing/Public Relations
D. Art/Creative Design
E. MIS/DP/Information Systems
F. Manufacturing/Operations/Production
G. Sales/Marketing
H. Administration/Management/Personnel
I. Accounting/Finance
J. Education/Training
K. Science
L. Consulting
Z. Other (please specify) _____

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?

☐ Yes ☐ No

			Currently Owned (Quantity)	Plan to Buy (0-12 Months) (Quantity)
MODULAR	68030 Macintosh IIfx / IIci / IIcx / IIx	3		
	68030 Macintosh IIsi	4		
	68020 Macintosh II / LC	5		
	68000 Macintosh Portable	6		
COMPACT				
	68030 Macintosh SE/30	7		
	68000 Macintosh Classic	8		
	68000 Macintosh SE / Plus / 512	9		
OTHER				
	IBM/Compatible Micro	10		
	Workstation (e.g. Apollo, Sun)	11		

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5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year?

(Answer one only.)

A. Retailer: sold per year _____ (specify quantity)
B. Reseller: resold per year _____ (specify quantity)
C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)
☐ D. Not Applicable

6 Please check the Mainframe(s) or Minicomputer(s) at your location:

(Check all that apply.)

☐ 01. VAX ☐ 02. IBM Mainframe ☐ 03. IBM Minicomputer ☐ 04. Other ☐ 09. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?

☐ Yes (If yes, check all that apply): ☐ No

Computers
☐ 01. Macintoshes
☐ 02. Workstations
☐ 03. Minis, Mainframes

Connectivity
☐ 10. Local Area Networks
☐ 11. Modems
☐ 12. Micro/Mini/Mainframe Links
☐ 13. Communication Software

Peripheral Equipment
☐ 20. Laser Printers
☐ 21. Color Printers
☐ 22. Color Monitors
☐ 23. Hard Disks
☐ 24. Backup Systems
☐ 26. Scanners
☐ 27. Input Devices
☐ 28. Removable Storage

Add-In Boards
☐ 40. Memory Boards
☐ 41. Graphic Boards
☐ 43. Ethernet Boards
☐ 44. Video Boards

Software
☐ 50. CAD/CAM
☐ 51. Graphics
☐ 52. Desktop Publishing/Fonts
☐ 53. Desktop Presentation
☐ 54. Database
☐ 55. Programming
☐ 56. Accounting, Payroll
☐ 57. Spreadsheets
☐ 59. Project Management
☐ 60. Word Processing
☐ 61. Utilities
☐ 62. Multimedia

8 If you answered yes to the above computer products, for how many Macintoshes do you have this involvement?

(Select one only.) Write Answer Here ➨ ☐

01. 1000+
02. 500-999
03. 100-499
04. 50-99
05. 20-49
06. 10-19
07. 1-9
09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have:

(Check all that apply.)

☐ 01. Local Area Network
☐ 02. Communicate with corporate workstations, mini or mainframe computers
☐ 03. Communicate with remote mini or mainframe computers
☐ 04. Communicate via modem
☐ 05. Voice/Data
☐ 09. Other (please specify)

10 Indicate how many employees there are in your entire company:

(Select one only.) Write Answer Here ➨ ☐

01. 1000 or more 02. 100-999 03. Under 100

11 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

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BUSINESS WATCH

- Industry news
- Market trends

Avatar, Tri-Data join forces in Mac-to-IBM market

Merger to improve mainframe links

By Mitch Ratcliffe

Hopkinton, Mass. — Avatar Corp. agreed to merge with Tri-Data Systems Inc. last week in a bid to grab a larger slice of the growing Mac-to-IBM mainframe connectivity market. The deal is expected to be finalized by mid-September.

Terms of the merger were not disclosed, except that Avatar paid Tri-Data cash, with funding primarily from Avatar's investor, Hambro International Equity Partners Inc. of New York and Boston.

The company, which will retain the name Avatar Corp., will remain privately held. Avatar officials estimated that the new organization will have annual sales exceeding $20 million.

"The merger makes good business sense," said Pieter Hartsook, editor of the Hartsook Letter in Alameda, Calif. "In a moderately stable market like we have now, it's easier for a larger company to make money."

Tom Bogan, president of Avatar, will continue as president. Bobby Johnson, president and CEO of Tri-Data, said he will maintain a limited consultative role while pursuing other interests.

"The IBM/Apple letter of intent is a positive sign for the connectivity market," Bogan said. "We expect growth in our business as Apple sells more Macs in the corporate market."

Bogan said Avatar had no plans to lay off employees or reorganize the

See Avatar, next page

Avatar's post-merger product line

PRODUCT DESCRIPTION	AVATAR	TRI-DATA
Mac-to-mainframe coaxial card	•	
Mac-to-mainframe coaxial gateway	•	
16/4 Mbps token-ring card	•	•
3270 terminal emulation	•	
16/4 Mbps token-ring gateway	•	•
Mac-to-mainframe SDLC card	•	
SDLC gateway	•	•
SDLC gateway for Mac and PC		•
IBM host APA graphics emulation	•	•
Ethernet card		•
AppleTalk router		•
IPX router		•
AppleTalk-to-TCP/IP gateway		•
PC/Windows gateway for AppleTalk and IPX		•

Study looks at competitive position of new OS

By Raines Cohen

Norwell, Mass. — System 7.0 will have a number of effects on the competition between Apple's and IBM's microcomputer platforms, according to "Apple's Macintosh System 7.0: A Competitive Analysis."

The $950 report, which was issued last month by BIS Strategic Decisions, the Norwell, Mass.-based division of Nynex Corp., indicates System 7.0 gives Apple a bigger lead over its PC and Unix imitators. The report describes the differences among System 7.0, System 6, IBM PC-compatible system software and Unix.

The company said the report, compiled between March and June, can be useful to developers, Apple's competition and users.

"We made a point in the report about the number of applications promised but not available at the time of introduction," said Edward Cherlin, an analyst in Weed, Calif., and the report's author.

"When we examined the specific applications available for System 7, we were surprised at the number of things developers had gotten wrong," said Cherlin. "When we did a graded-area fill in PixelPaint, other programs continued running in the background, but we couldn't switch to them." Cherlin predicted it will take at least two years before developers and users fully exploit System 7.

BIS Strategic Decisions is at P.O. Box 5-0076, Woburn, Mass. 01815-0076. Phone (617) 893-9130; fax (617) 894-5093. □

NeXT's Jobs appointed to export council

By Dartanyan L. Brown

Washington — Steve Jobs, co-founder of Apple and NeXT Inc., has been appointed to the President's Export Council.

The council is the premier national advisory committee on international trade. It advises President Bush on government policies and programs that affect U.S. trade performance, promotes export expansion, and provides a forum for discussing and resolving trade-related problems in the business and government sectors.

Jobs, whose efforts at Apple and NeXT have involved international financing and manufacturing agreements, was enthusiastic.

"[Apple and NeXT] had a long relationship with senior people in Japanese companies and I see this as a real opportunity," Jobs said. "It's important for our country to understand where trade trends are headed. Hopefully I can be of help."

According to Secretary of Commerce Robert Mosbacher, "President Bush appointed Steve Jobs because of the exemplary entrepreneurial role he has played in the technology industry and for his outstanding leadership in the computer industry."

Jobs was awarded the National Technology Medal by President Reagan in 1985. In 1987, he received the Jefferson Award for Public Service and in 1990 he received a National Medal of Technology from the International Technology Institute. □

Apple releases new dealer pricing schedule

Prices 'equalize' Mac resellers

By Andrew Gore

Cupertino, Calif. — Following through on promises that it would address inequities in its dealer pricing, Apple has released a simplified pricing schedule that includes its new Macs.

According to sources, Apple has been briefing its resellers on a new "flat landscape" pricing schedule that allows independent resellers to compete head to head with chain stores. The plan, to go into effect in Oct. 1 also includes incentives for dealers to push high-end, higher-margin Macs over easier-to-sell low-cost Macs.

Apple's dealer pricing

TIER ONE
- Products: Classic, LC, PowerBook 100, PowerBook 140, Classic II
- Dealer discount: 25 to 30 percent off list price

TIER TWO
- Products: IIsi, IIci and PowerBook 170
- Dealer discount: 28 to 33 percent off list price

TIER THREE
- Products: IIfx, Quadra 900 and Quadra 700
- Dealer discount: 31 to 36 percent off list price

▸ **Three tiers.** Apple has reduced the more than eight discount levels in its older pricing schedule to one pricing scheme.

The new schedule divides Apple's CPU products into three discount

See Apple, next page

StockWatch

	08.14.91 CLOSE	WEEKLY % CHANGE
Apple	54.88	8.93
SOFTWARE DEVELOPERS		
Adobe	60.00	7.38
Aldus	41.25	7.14
Ashton-Tate	16.38	3.15
Caere	20.00	-4.76
CE Software	6.75	-6.90
Microsoft	82.50	8.55
Symantec	51.25	-1.44
PERIPHERALS VENDORS		
CMS	2.38	11.76
HP	55.00	1.15
Mass Micro	1.22	-15.23
QMS	22.50	2.27
Radius	5.88	14.63
RasterOps	28.00	-0.88
Sigma	8.00	-5.88
STORAGE		
Conner	22.00	1.15
Maxtor	3.50	24.42
Quantum	11.00	-1.12
Seagate	9.13	7.35
INDUSTRY INDICATORS		
Businessland	0.94	0.00
DEC	64.00	-2.85
IBM	98.50	-0.51
Motorola	68.00	4.41
Sun	32.75	-4.03
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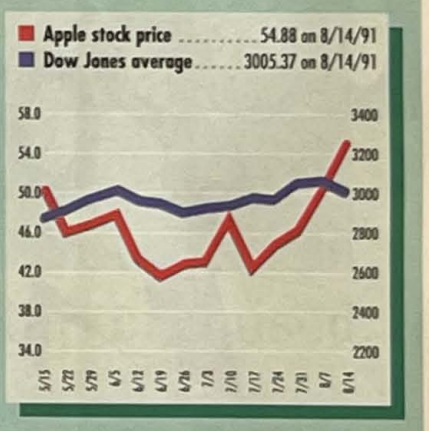

The euphoria generated by news of Apple's October debuts caused a run on Apple stock last week. The stock shot up 8.93 percent to close Wednesday at $54.88.

Wall Street was particularly impressed with the Mac PowerBooks, which many anticipated could outsell even the Classic.

Meanwhile, storage vendor Maxtor Corp. showed new signs of life, rising more than 24 percent.

Ashton-Tate cuts 15 percent of its work force

By Shawn Tomlinson

Torrance, Calif. — Ashton-Tate Corp., developer of the top-selling dBASE relational-database language, has cut 15 percent of its work force, bringing its employee total to 1,300.

The work-force reduction comes in the wake of Borland International Inc.'s planned buyout of Ashton-Tate, slated for completion later this year (see MacWEEK, July 16).

Ashton-Tate claims the cuts will improve its efficiency and productivity and that the layoffs have nothing to do with the Borland merger.

Trimming the work force will result in the loss of about 220 jobs worldwide. Ashton-Tate, which made the cuts immediately upon announcing the layoffs, is offering severance pay roughly equal to what the employees would have made for the remainder of the quarter, which ends Sept. 30.

Ashton-Tate has made a series of cuts in its work force during the past two years and has been faced with increasingly difficult financial problems. □

Apple

From previous page

tiers. Tier One, with a base discount of 25 percent off list prices, covers the Classic; LC; and Apple's PowerBook 100, PowerBook 140 and Classic II (see story, Page 1). Tier Two, with a 28 percent base discount, includes the IIsi, IIci and PowerBook 170.

Tier Three has a 31 percent base discount and covers the IIfx and the new Quadra 700 and Quadra 900.

▸ **Bonus discounts.** The one area where Apple's new level playing field gets a little bumpy, sources said, is in bonus discounts.

Resellers that buy more than $20 million in Apple products out of a central warehouse will get an additional 4 percentage points added on to the base tier discount. Apple may change the warehouse amount to $25 million, sources said.

Apple is offering a special 1 percent franchisers discount to companies that sell Apple products to dealer franchises.

▸ **Special funds.** On top of Apple's discount off retail rates, resellers can get 2 percent of the money they spend with Apple back in the form of a co-op rebate, once per quarter. This money is used to offset promotion costs.

Resellers who meet minimum staffing requirements also can get an infrastructure rebate. Tier One products get no rebate, Tier Two products get a 2 percent rebate, and Tier Three products get 6 percent. □

MacWEEK index
SOFTWARE PIRACY REPORT

The following data was taken from a Software Publishers Association computer piracy research report:

Revenues lost to piracy in the United States (in billions)

	1987	1988	1989	1990
DOS	$2.1	$2.6	$2.2	$1.9
Mac	$0.219	$0.298	$0.299	$0.535
Totals	**$2.3**	**$2.9**	**$2.5**	**$2.4**

Word processing software piracy (WP units sold per hardware units sold)

	1987	1988	1989	1990
DOS	.21	.22	.26	.33
Mac	.33	.48	.52	.40

Note: According to analysts, close to 100 percent of Macs use some kind of word processor. This means that in 1990, some 1.5 word processor units were illegally copied for every unit sold.

Source: SPA

Avatar

From previous page

company as a result of the merger.

The two companies' product lines are aimed at different aspects of connecting Macs to IBM mainframes. Avatar's connectivity efforts have focused on individual workstations that need 3270 access to mainframe applications.

Tri-Data produces Systems Network Architecture gateways, routers and token-ring cards. No plans have been made to discontinue products, despite some redundancy after the merger. An Avatar spokeswoman said some of the Tri-Data product line may be renamed.

Avatar said it will combine software and hardware elements of both product lines to provide a more comprehensive product line (see chart on previous page). Tri-Data's 16/4-Mbps token-ring card, which has been troubled by instability, may be re-engineered, according to Avatar.

Tri-Data's Johnson said Avatar's MacMainframe 3270 client software probably will be incorporated into Tri-Data's RISC (reduced instruction set computing)-based Netway SNA gateway.

The combination would support IBM 3270 SNA client connection to IBM mainframes, as well as Data Access Language (DAL) access to databases from Oracle Corp., ACIUS Inc. and other SQL-compatible applications.

Johnson also said the new company would reduce the overlap between the two engineering groups, freeing development resources for new products. □

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SEPTEMBER

EDITORIAL CALENDAR

Issue date	ProductWatch	Display close	Showcase close
Sept 10	Training	Aug 29	Aug 27
Sept 17	Spreadsheets	Sept 5	Sept 3
Sept 24	Add-in boards	Sept 12	Sept 10

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MacWEEK

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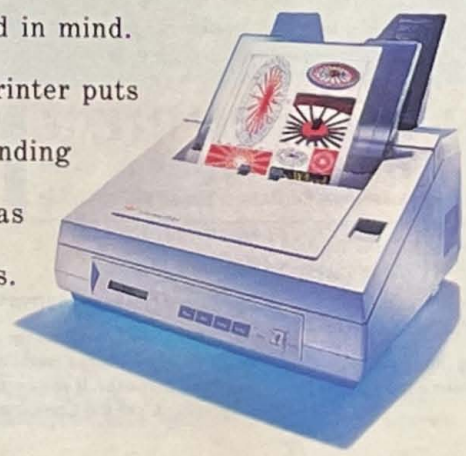

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C&C Computers and Communications

NEC

Publishing

From Page 1

printing a gray map. They then scan the output into Ofoto, which creates a calibration file that automatically adjusts later scans to compensate for the output device. This method gets better results at lower resolutions, which means users can scan at lower resolutions, thereby reducing file sizes. Users of the current Apple Scanner can get Ofoto for $199.

The flatbed Apple OneScanner captures up to 256 shades of gray at 300 dpi and has an image area of 8.5 by 11 inches. It reportedly will sell for $1,399, $400 less than the current Apple Scanner.

▶ **PhotoGrade.** Along with the new LaserWriter IIf and IIg, Apple will introduce its PhotoGrade technology, which will allow the printers to output images with more than 65 levels of gray, more than seven times the number of gray levels offered by the current LaserWriters. PhotoGrade accomplishes this by varying the size and pattern of dots to produce more gradual gray transitions.

"[PhotoGrade] sounds pretty impressive," said Steve Ivy, a scanner product manager at Hewlett-Packard Co. in Palo Alto, Calif. "The limitation of getting good halftones has never been in the scanners; it's been in laser printers. I'd love to see printers handle halftones better because scanner sales are very much driven by the quality of output."

▶ **FinePrint.** In addition, the new LaserWriters will contain Apple's FinePrint technology, which smooths out lines and curves on text and graphics by more finely adjusting horizontal dot positions. The resulting output approaches the quality of 600 dpi, according to sources.

The two new 300-dpi LaserWriters will offer PostScript Level 2 and Hewlett-Packard LaserJet IIP emulation. The 8-page-per-minute printers also reportedly will process pages twice as fast as Apple's $4,999 LaserWriter IINTX.

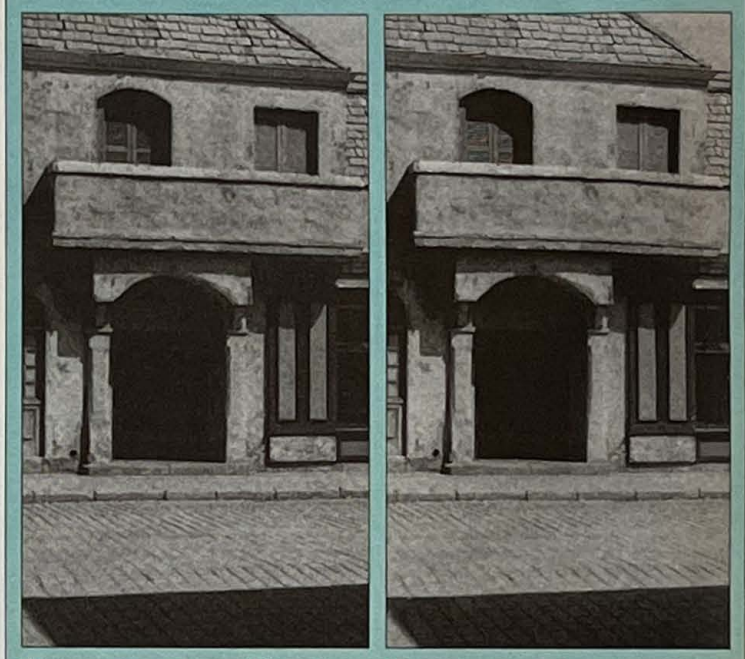
The LaserWriter IIf, expected to sell for $3,999, will come with a 20-MHz Motorola 68030 processor and 2 Mbytes of RAM, expandable to 32 Mbytes. The IIf can automatically switch between its AppleTalk and RS-232/RS-422 ports. It also has a SCSI port for hard disk connection.

The LaserWriter IIg, priced at about $4,999, will come with a 25-MHz '030 processor and 5 Mbytes of RAM, which can be upgraded to 32 Mbytes. It has all the ports and switching capabilities of the IIf, plus an Ethernet interface.

Users will have to upgrade the LaserWriter IIf to 5 Mbytes of RAM to use PhotoGrade.

Industry watchers praised Apple's renewed attention to publishing quality. "Apple is finally doing something for the desktop publishing market," said Tony Bove, editor of Bove & Rhodes Inside Report on Desktop Publishing and Multimedia based in Gualala, Calif. "Desktop publishing made the Mac, and Apple has been ignoring it for a long time." □

Can you see the difference?



This image was created using Ofoto and the OneScanner. It is a 200-dpi scan prepared automatically and not touched up in any other program.

This image was created using the AVR 3000/CL Plus scanner and Adobe Photoshop. It is a 266-dpi scan prepared manually and touched up by a graphics professional.

Upgrades

From Page 1

three-slot machines can buy an upgrade kit that includes a Quadra 700 logic board and a new case. Users will get to keep their disk drives, memory and power supplies, as well as the lid of their old machine. In fact, sources said, the reason the Quadra 700 has only two NuBus slots is so upgraded systems can stay within the IIcx-IIci power budget.

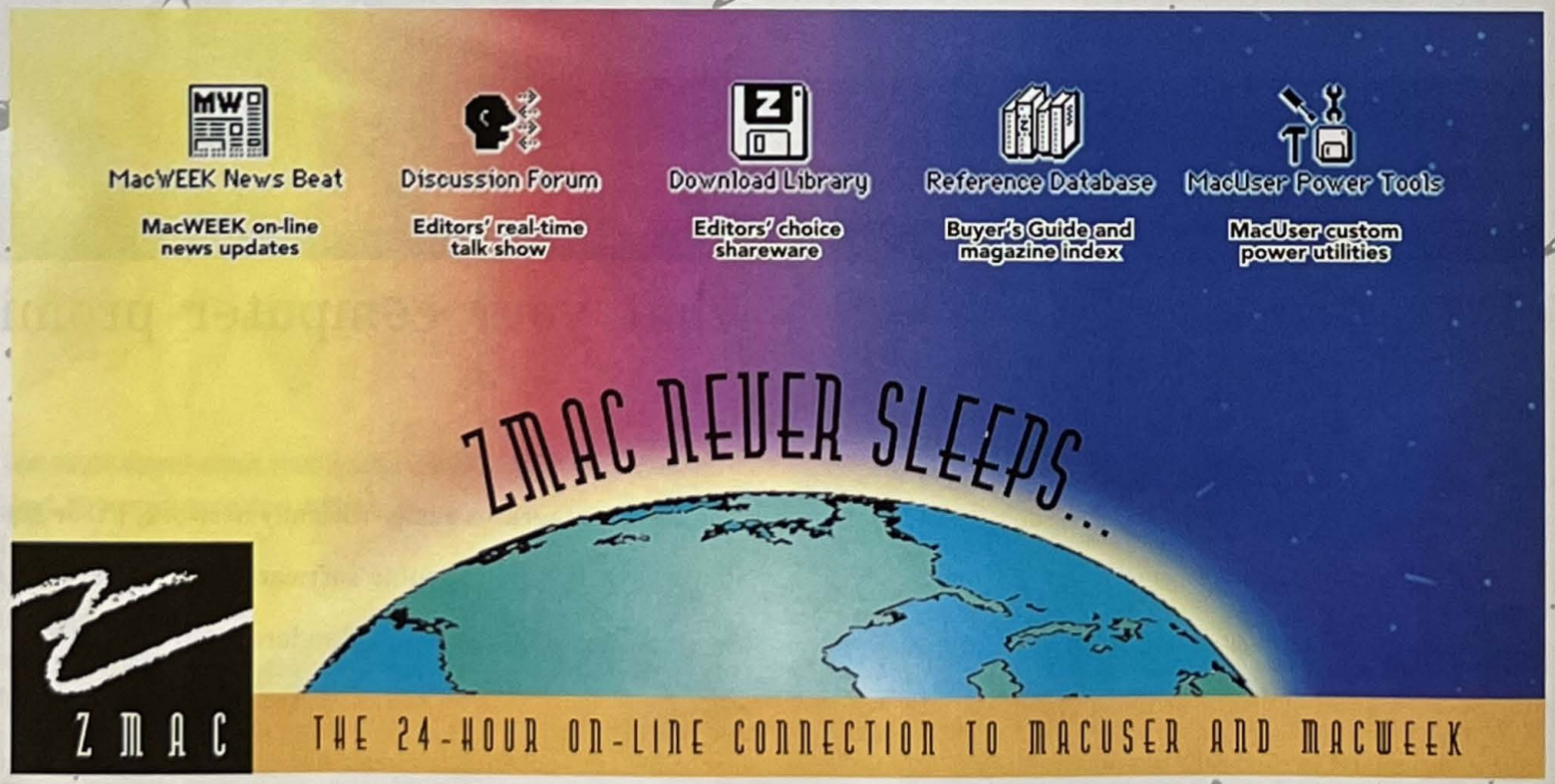
Apple apparently plans no 68040 upgrade path, at least for now, for owners of six-slot Macs, including its current top-of-the-line system, the Mac IIfx.

Logic-board upgrades will be available, however, to owners of LaserWriter IISC, IINT or IINTX printers. The IIf upgrade will cost $1,399, while moving up to the IIg will cost $2,399.

▶ **R.I.P.** With the introduction of the Classic II and the new laptop line, Apple will retire its current '030-based compact model, the Mac SE/30, and the original Mac Portable. The LaserWriter IINT and IINTX also will be history as of Oct. 2.

The year-old 68000-based Classic will remain in the lineup, however, so Apple can maintain a foothold in the under-$1,000 CPU market.

Prices on the IIci and IIfx are due for a major cut, sources said. □



HOW TO USE ZMAC

If you're a CompuServe user, just type **GO ZMAC** at any **!** prompt.

If you don't subscribe to CIS, sign up with Zmac by following these directions.

First, call (800) 635-6225 (voice) to find your local access number.

Second, set up your modem and telecommunications software with the following standard Macintosh settings: 8 bits, one stop and no parity.

Dial your local access number. When connected, press **RETURN**.

You'll see the following prompts on-screen. Your responses are printed in **BOLD**.

Host Name: **CIS**

User ID: **177000,5200**

Password: **Z*MAC**

Agreement Number: **Z12D9014**

You will then be prompted for additional information including a credit card number for billing purposes. If you cannot bill to a credit card, call the CompuServe Customer support line listed below. **Sign-up is free**; however, normal access time is billed at $12.50/hour.

Call CIS again with your User ID and Password. A new password will arrive by mail within 10 days.

For more information call CompuServe Customer Support at (800) 848-8990.

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•Supports MACE Compression (3:1 & 6:1)	✓	✓	✓	✓
•Driver supports real-time compression on Mac® Plus, SE & Classic			✓	
•Supports compression with all standard sampling rates	✓		✓	
•Supports Apple QuickTime™	✓	✓	✓	✓
•On-board Digital Signal Processor			✓	
•Unidirectional, noise cancelling microphone			✓	
•Line Input Jack	✓		✓	✓
•Mic Input Jack	✓		✓	✓
•Manual Gain Control			✓	✓
•Auto Gain Control	✓			
•Desk Accessory for recording, editing and sound file I/O	✓		✓	
•Supports sound editing within 3rd party applications	✓		✓	
•Advanced sound editing application			✓	✓
•Clip to attach to Mac			✓	
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•On Line Help	✓		✓	
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***Product specifications and comparisons based on published company information as of July 10, 1991.*

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Articulate Systems
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User survey

From Page 1

"We don't have a widespread need for that kind of power," said Tim Yancy, manager of Macintosh Products at Southern California Edison Co. in Rosemead, Calif. "Our biggest need is for a more robust server platform."

Alburty said he would like to use the Quadra 900 to hold a company-wide database for 100 simultaneous users. "The dirty little secret of the Mac is that it cannot handle the heart and soul of corporations: large databases," he said. He has yet to find database software up to the challenge.

Still there are those who look forward to more power for the desktop. "The 900 could be an engineering workstation, where people need tons of memory," said Barry Eisenberg, senior management systems analyst for the Ground Systems Group of Hughes Aircraft Co. in Fullerton, Calif. "The 700 would probably become the new high-end machine for power users. What's interesting is both have built-in Ethernet and the option of no hard drive, making them diskless workstations. And that gives the Mac networking architecture another level of utility," he said.

For Telesat Canada, "the two '040 systems won't replace the IIfx," Fortin said. "The Quadra 700 is more like a IIci, and the other is a big tower. But plenty of users still need a Mac II-size, six-slot machine."

▸ **Classic II.** The new compact Mac represents the big maybe for volume buyers. Telesat's Fortin, for example, said the Classic II will become the company's minimum standard.

Eisenberg said he sees the new Classic as an ideal server. "It's a pretty capable machine, and that is a perfect monitor for that purpose," he said. "And I imagine third parties will let us add in Ethernet."

But Yancy said: "We will not recommend the Classic II as a corporate machine because it does not have the connectivity of the modular Macs. Even for the home, we try to steer people to at least the LC, because of the color screen."

▸ **Timing.** A lot can be said about the timing of Apple's introduction, much of it contradictory.

"I think Apple is going to get a lot of attention at Comdex," said Joan-Carol Brigham, director of graphics and Macintosh research for International Data Corp. of Framingham, Mass. "People just don't introduce at Comdex anymore, and Apple could use the reverse psychology to its benefit."

The psychological benefit, however, may not transcend the budgetary restraints that buyers are facing.

Universities approaching the end of their fiscal year may not be able to wait for the new models, said Francine Thurston, assistant microcomputing specialist at Emory University in Atlanta. "Many departments have to spend their funds now or risk losing them."

Many Mac managers said that their recession-pinched companies will find it hard to buy the new machines, regardless of how tempting the technology is.

"Shame on Apple for coming out with something so desirable when money is so tight," said Chiat/Day/Mojo's Alburty. □

Matthew Rothenberg and Wade Williams contributed to this report.

New Macs

From Page 1

The PowerBook 140 and 170 have built-in floppy drives, and the 170 comes with the internal fax/data modem. Although none of the machines has built-in support for external displays, third-party monitor companies are expected to offer PowerBook video out through special SCSI adapters.

All the models will include AppleTalk Remote Access, which will let users dial into AppleTalk networks.

▸ **Quadras.** Both of Apple's new 68040-based machines, the Mac Quadra 700 and 900, will sport a new SCSI controller, which sources say is roughly twice as fast as the current controller. They also will have NuBus 90 slots, which can transfer data twice as fast as the current NuBus.

Despite this, the '040 Macs run an average of only 40 percent faster than the IIfx, according to sources. However, at $6,500 with 4 Mbytes of RAM and an 80-Mbyte hard drive, the desktop Quadra 700 is $1,500 cheaper than an equivalent IIfx at current prices.

Despite the Quadra 900's tower design, sources said it will not be marketed as a server but instead will be sold against high-performance PCs.

▸ **Classic II.** Despite appearances, the $1,900 Classic II is not a cheaper SE/30. This is the machine that Apple hopes Classic users will step up to when they hit the performance wall on their 68000-based machines, sources said. The Classic II has double the performance of the current Classic but with virtually no expansion. The only available slot is slated for a 68882 or future ROM upgrade.

▸ **ROMs and System 7.** All the new Macs require System 7.0.1 and will come with it installed. They also will come with 32-bit-clean ROMs, except for the PowerBook 100. □

A/UX

From Page 1

test sites have not yet received the software, Apple sources said A/UX 3.0 will ship in January.

A/UX's Unix-to-Unix Copy Protocol, a Unix mail application, is notorious for its instability. "Apple needs to fix UUCP," Gallardo said. "It's one of the main things my users depend on."

While users are generally satisfied with A/UX functionality, most want Apple to move the product up to the level of AT&T Co.'s most recent Unix iteration, System V Release 4. A/UX 2.0 is based on System V Release 2.2, with some Berkeley Standard Distribution (BSD) 4.3 extensions.

"A/UX is fairly decent as is, but it could stand a few bug fixes and a good deal of improvement in the area of compatibility with BSD Unix," said user Richard Todd of Norman, Okla. "I think [Apple] shouldn't ditch System 6; you should be able to select either System 6 or System 7 [under A/UX]."

▸ **AIX.** Apple may turn to IBM Corp.'s AIX as the standard Unix operating system for RISC (reduced instruction set computing) Macs, a prospect that has A/UX users rethinking their hardware options.

A/UX was built for use on Motorola Inc.'s 68000 chips. An A/UX port to future implementations of IBM's RS/6000 processor architecture would result in an operating system very different from A/UX, according to sources. It would more closely resemble AIX.

"After hearing the news, we'll have to reconsider our A/UX investment," said Kevin Hegg, senior systems engineer at Electronic Data Systems Corp. in Ann Arbor, Mich. "AIX is an abomination — the ultimate kludge of Unix that tries to deliver what IBM customers want."

AIX offers considerably more system-administration features than most Unix systems. It also is reported to be very buggy.

Consultant Carp, who worked on the AIX project at IBM, said a marriage of A/UX and AIX would be the worst thing that could happen to A/UX. "I'll be a lot more comfortable if the basic technology comes from Apple," Carp said. "If they use A/UX or Pink (Apple's new object-oriented operating system) with libraries for AIX functions, that would be great."

Todd, in a message on the A/UX news group on the Internet, said, "Many A/UX users view a possible AIX port with about the same enthusiasm they would give to being eaten alive by leeches."

"If Apple moves to AIX, it will be introducing an operating system designed by committee," said EDS' Hegg. "I hope they know that's a letdown. We want a system designed by two exceptional geniuses." □

New product pricing

Name	Prices and configurations
Classic	$999 (1/floppy); $1,499 (2/40)
Classic II*	$1,900 (2/40); $2,400 (4/80)
LC	$2,499 (2/40); $2,999 (4/80)
IIsi	$3,769 (3/40); $4,569 (5/80)
IIci	$5,269 (5/floppy); $5,969 (5/80); $6,569 (5/160)
IIfx	$7,369 (4/floppy); $8,069 (4/80); $8,669 (4/160)
Quadra 700*	$5,800 (4/floppy); $6,500 (4/80); $7,000 (4/160)
Quadra 900*	$7,500 (4/floppy); $8,700 (4/160)
PowerBook 100*	$2,300 (2/20); $2,500 (2/20 with external floppy)
PowerBook 140*	$2,900 (2/20); $3,200 (2/40)
PowerBook 170*	$4,600 (4/40)

Prices estimated

The Oct. 21 Macintosh product line

Name	Display capabilities	CPU	Hard disk included	RAM included	RAM expansion	Expansion slots	Network interface	SCSI
Classic	Black & white on built-in 9" monitor	8-MHz 68000	None or 40 Mbytes	1 or 2 Mbytes	2 SIMM slots	None	LocalTalk	Standard
Classic II	Black & white on built-in 9" monitor	16-MHz 68030	40 or 80 Mbytes	2 or 4 Mbytes	2 SIMM slots	1 ROM/FPU	LocalTalk	Standard
LC	4 bit on 13" monitors	16-MHz 68020	40 or 80 Mbytes	2 or 4 Mbytes	2 SIMM slots	1 PDS	LocalTalk	Standard
IIsi	8 bit on 13" monitors	20-MHz 68030	40 or 80 Mbytes	3 or 5 Mbytes	4 SIMM slots	1 NuBus or PDS	LocalTalk	Standard
IIci	8 bit on 13" monitors	25-MHz 68030 & 25-MHz 68882	None, 80 or 160 Mbytes	5 Mbytes	8 SIMM slots	3 NuBus, 1 cache	LocalTalk	Standard
IIfx	None	40-MHz 68030 & 40-MHz 68882	None, 80 or 160 Mbytes	4 Mbytes	8 SIMM slots	6 NuBus, 1 PDS	LocalTalk	Standard
Quadra 700	8 bit standard*	25-MHz 68040	None, 80 or 160 Mbytes	4 Mbytes	4 SIMM slots	2 NuBus 90, 1 PDS	LocalTalk, Apple Ethernet	Faster
Quadra 900	8 bit standard, expandable to 24 bit	25-MHz 68040	None or 160	4 Mbytes	12 SIMM slots	5 NuBus 90, 1 PDS	LocalTalk, Apple Ethernet	Faster

Name	Display capabilities	CPU	Hard disk included	RAM included	Internal modem	Weight	Battery life	Dimensions
PowerBook 100	9" backlit supertwist	16-MHz 68000 (low power)	20 Mbytes	2 Mbytes	Optional	5.1 lb.	2-4 hours	1.8" x 11" x 8.6"
PowerBook 140	10" backlit supertwist	16-MHz 68030	20 or 40 Mbytes	2 or 4 Mbytes	Optional	6.8 lb.	2-3 hours	2.25" x 11.25" x 9.3"
PowerBook 170	10" backlit active matrix	25-MHz 68030 & 25-MHz 68882	40 Mbytes	4 Mbytes	Included	6.8 lb.	2-3 hours	2.25" x 11.25" x 9.3"

Expandable to 24-bit on up to 13" monitors

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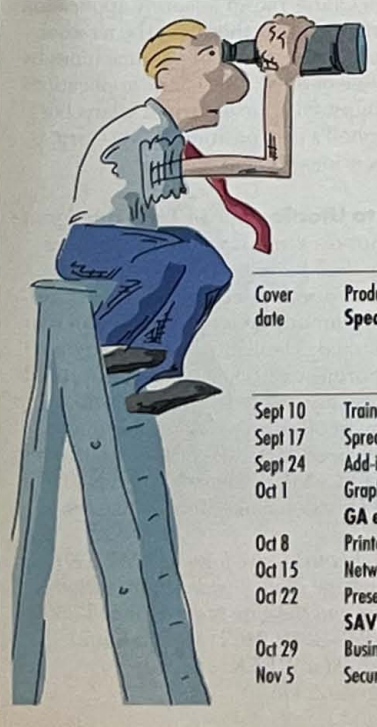

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Apple and Adobe talkin' type

Forget everything you learned in business class about competition between companies. The 1990s are shaping up to be the decade of making up with, and making allies out of, former competitors. While things haven't progressed to the point that Apple will give up its three-year-long struggle to roll back Windows, there are plenty of examples in support of this make-a-strategic-partner-not-war phenomenon.

In the bad old days, things were pretty rocky between Apple and Adobe. For reasons best left to the corporate historians, Apple decided that its dependence on Adobe for font technology was becoming tiresome, and it decided to team up with Microsoft to develop TrueType, an alternative to Adobe's PostScript Type 1 font technology. As a result, users now have the distinct pleasure of juggling two font formats.

This juggling may become less labor intensive, however, if the heated negotiations are successful between the two companies, as is likely. Sources tell the Knife that Apple wants to incorporate Type 1 rendering, a la Adobe Type Manager, as a standard feature of a future incarnation of the Mac OS. This scenario would mean the end of the jaggies once and for all (*really*). Such an arrangement would be a best-case resolution of the current situation for Adobe and for users. Sources say the talks are progressing warmly.

A smaller rose. As impressive as Apple's PowerBook series of laptop Macs promises to be, some of the Knife's sources are already getting excited about an even more compact Mac that is aborning in the wings. Although the PowerBooks are being called notebooks by many, Apple officially refers to them as portables.

Apple's real notebook Mac, which is currently scheduled for introduction in 12 to 14 months, is the most diminutive yet (about 8 by 10.5 by 1 inch). Current specifications call for a 25-MHz 68030, 4 Mbytes of dynamic RAM and a hard disk (available in either 40 or 80 Mbytes). In addition to being small and powerful, the notebook will also boast a supertwist display capable of 16 gray levels.

This notebook also will have a docking unit that includes monitor support, two NuBus slots, standard Mac I/O ports and a slot for an FPU. All in all, these specs will be all the more impressive if Apple is able to hit its target list price of about $3,000 for the 4/40 model and $3,300 for the 4/80 configuration.

(Those of you who were annoyed with the position of the trackball on the PowerBooks when you test drove them during those many focus-group sessions will be interested to hear that the real notebook may abandon the trackball in favor of an alternative pointing device not completely dissimilar from the pointing device used in the new Outbound Macs.)

Claris works. It's no secret that Claris is developing versions of some of its applications for other operating environments. A Windows version of FileMaker Pro, for example, is said to be a high priority. The news this week is that deep within the bowels of the company's Santa Clara, Calif., offices, a group of programmers is secretly working on applications to run on computers running a pen OS. Given Claris' rather leisurely application development period, there may be a rather substantial installed base of pen machines by the time one of these new Claris applications actually ships. Of course, former Claris boss Bill Campbell's new position at GO Corp. is merely a curious coincidence.

Toast to Utopia. One of Todd Rundgren's several purposes in this world is to serve as the human link between the somewhat frumpy Mac developer crowd and the decidedly more glamorous electric guitar and synthesizer crowd. The Knife has learned that the latest project with David Levine at Rundgren's company, Utopia Software, is the development of a user-configurable and much-improved Mac interface for controlling NewTek Inc.'s Video Toaster. Sounds sort of like an MTV video maker for the masses. □

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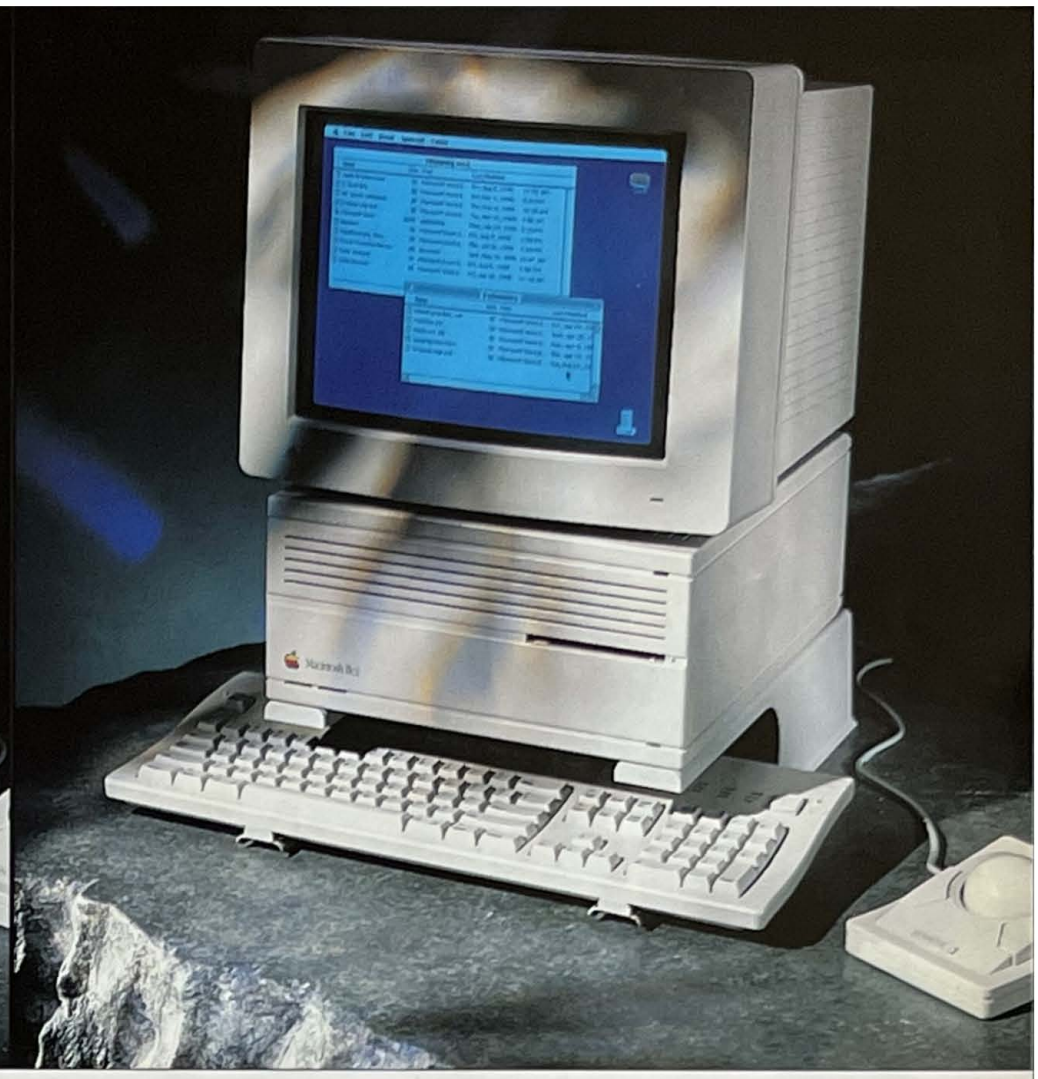

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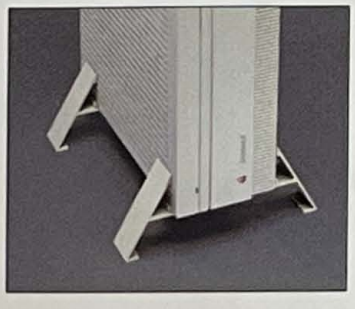

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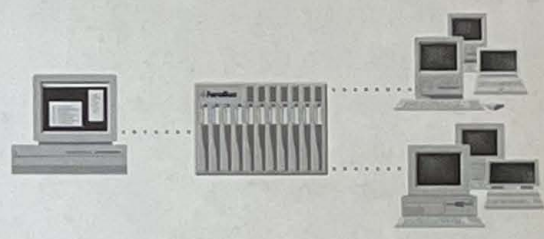

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